ENCORE
S20/L20

Section II
Parts and Service Manual

Order Parts Here:

IVIE Enterprises, Inc.
www.ivie-ent.com/parts
Ph:(918)254-5161

(74836B)

HOW TO CORRECT PROBLEMS IN THE MACHINE

PROBLEM	CAUSE	ACTION
There is no solution flow.	The solution valve is closed.	Open the solution valve.
	There is an obstruction in the solution hose or filter.	Remove the obstruction from the hose and the filter.
	The solution valve or electric wiring is damaged.	Repair or replace the valve and the electric wiring.
	The solution tank is empty.	Fill the solution tank.
	The solution module is damaged.	Check solution module
The solution flow does not stop.	The solution valve is open or dirty.	Close or Clean the solution valve.
	The solution valve or wiring is damaged.	Repair or replace the valve and the wiring.
	The solution valve is dirty	Clean the solution valve.
	There is a damaged seat and washer in the solution valve.	Replace the seat and washer.
	The solution module is damaged.	Check solution module.
The machine does not remove all the water from the floor.	The squeegee is up	Lower the squeegee.
	The squeegee tilt is not correct.	(See Figure 11, page 23)
	The vacuum tank is full.	Drain the tank.
	The screen filter is dirty.	Clean the screen filter.
	There is an obstruction or damage in the squeegee, squeegee hose or standpipe.	Remove the obstruction or repair the damage.
	The vacuum motor is not running.	Check for tripped breaker. Have an authorized service person make repairs.
	The vacuum motor runs slow	See pg 49 for brush replacement intervals.
	The squeegee hose is disconnected, or damaged	Check and connect hose.
	The squeegee blade is damaged, worn, or incorrectly installed.	Turn or replace the squeegee blade. Correctly install the squeegee blade.
	The squeegee pressure is not correctly adjusted.	Adjust the pressure of the squeegee.
	The gaskets on the cover of the recovery tank are damaged.	Replace the gaskets.
The batteries do not give the normal running time.	The recovery tank lid is on wrong.	Rotate lid 180° and replace.
	The battery terminals are dirty or damaged.	Clean the terminals and connectors. Replace the damaged cables. Charge the batteries.
	The electrolyte level is too low.	Add distilled water to each cell and charge the batteries.
	The batteries are not fully charged.	Charge the batteries for a full 16 hour charge.
	The charger is damaged.	Have an authorized service person repair the charger.
	The battery is defective.	Check voltage of each cell while discharging.
	The batteries are disconnected.	Connect the batteries.
	Brush is in heavy scrub setting.	Run in float position.

PROBLEM	CAUSE	ACTION
The cleaning is not even.	The scrub brush or pad is worn.	Replace the scrub brush or pad.
	There is damage to the brush assembly, caster or the solution valve.	Have an authorized service person make the needed repairs.
	The brush motor is not running	Check for tripped breaker. Reset. Check for loose connections.
	The solution level is low.	Fill the solution tank.
		NOTE: If the problem continues consult an authorized service person.
The machine does not run.	The machine loses power.	Reset the circuit breaker.
	Key or switch is off.	Turn key or switch on.
	Batteries are unplugged. Battery terminals are dirty.	Check the battery connections.
	Batteries are discharged	Check battery gauge and recharge NOTE: If the problem continues consult an authorized service person.

MAINTENANCE

WARNING: Maintenance and repairs must be done by authorized personnel only.

WARNING: Always empty the solution tank and recovery tank before doing any maintenance.

WARNING: Keep all fasteners tight.

These Maintenance Procedures Must Be Done Every Day

Keep the machine clean, it will need fewer repairs and have longer life.

Do These Procedures When You Begin Your Work Period

NOTE: Always engage the parking brake (if equipped) before servicing the machine.

1. Disconnect the plug on the charger from the connector on the back of the machine. See figure 1
2. Join the connector from the batteries (1) to the control panel cable connection. See figure 1.
3. Make sure the recovery tank lid is on correctly. See figure 2.
4. Make sure the Screen filter over the vacuum motor is clean and in position. See figure 2 (a)
5. Make sure the valves on the drain hoses are clean. Tightly close the valves.
6. Make sure brush housing and skirt are in position on the brush head.
7. Make sure the brush is in position and installed correctly
8. Check the installation of the squeegee and squeegee hose.

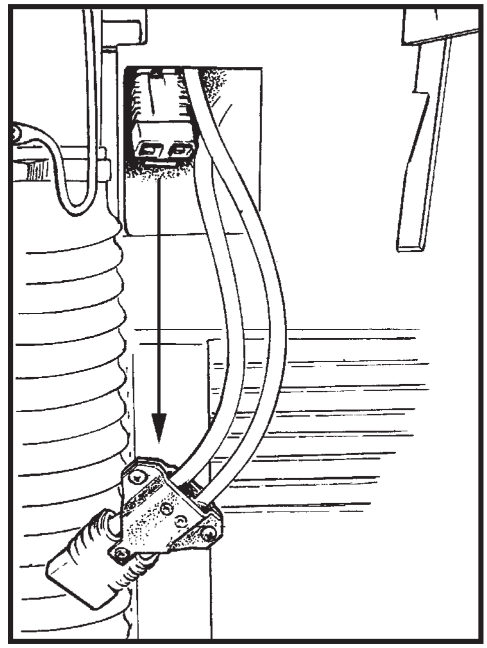


Figure 1

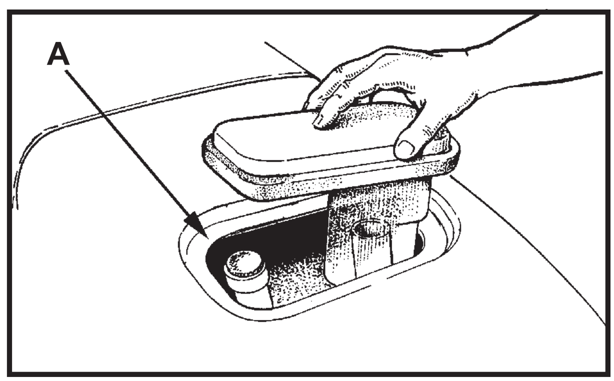


Figure 2

MAINTENANCE

Do These Procedures When You End Your Work

NOTE: Always engage the parking brake (if equipped) before servicing the machine.

1. Drain the solution tank (Figure 3) and the recovery tank (Figure 4). To drain the tanks , follow this procedure:

   a. Turn the key switch "OFF".

   b. Remove the drain hose from the back of the machine.

   c. Put the end of the hose over a drain or bucket.

   d. Turn the valve handle to the left. Pull the handle out to open the drain. (Figure 5)

NOTE: Have the opening in the side of the valve away from you when you open the valve.

   e. To open the valve completely, turn the handle to the right. Pull the handle out of valve. (Figure 6)

2. Flush the tanks. To flush the tanks, put clean water in the tank through the opening on top of the tank.

CAUTION: **Make sure water or solution does not enter the opening for the vacuum motor. See figure 2.**

3. If a tank or drain hose has an obstruction, use a high pressure water hose to flush the tank or hose. Put the water hose into the drain hose.

4. Leave the tanks and the drain valves open to dry in the air.

5. Check the squeegee blade. Use a cloth to clean the squeegee blade. If the squeegee blade is damaged or worn, turn or replace the blade.

6. Check and clean the solution lid gasket. Use a mild cleaning solution and rinse the parts in clean water.

Check the batteries and add distilled water as needed. The correct level is within 1/4 inch of the bottom of the tube in each cell.

CAUTION: **Tap water may contain contaminants that will damage batteries. Batteries must be refilled with distilled water only.**

WARNING: **Lead acid batteries generate gases which can cause an explosion. NO SMOKING. Always wear eye protection and protective clothing when working near batteries.**

Use a clean cloth and wipe the surface of the machine.

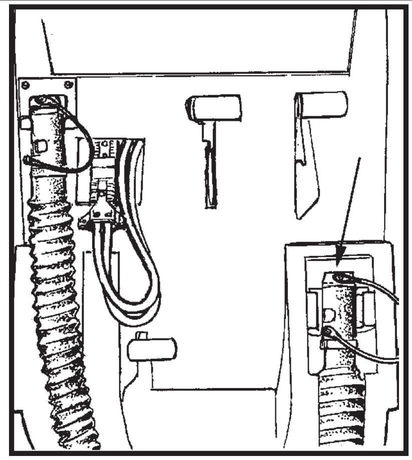


Figure 3

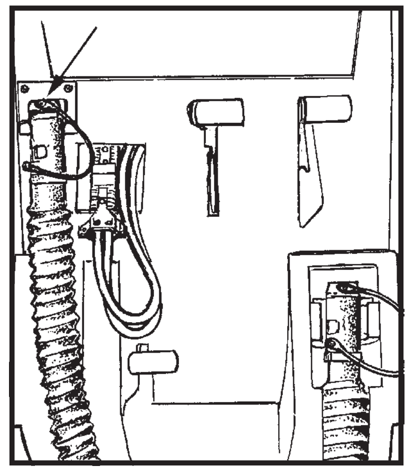


Figure 4

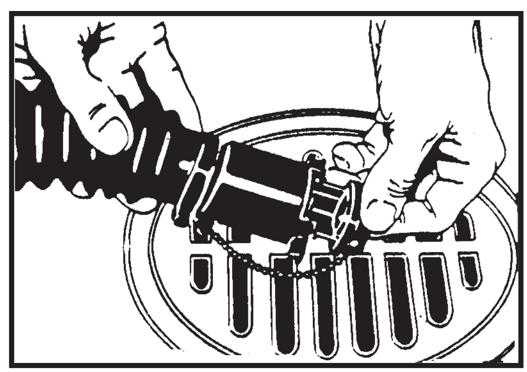


Figure 5

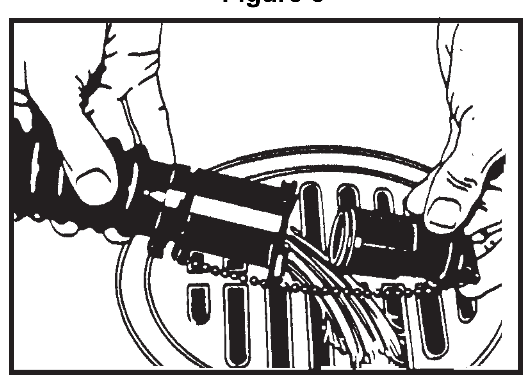


Figure 6

These Maintenance Procedures Must Be Done Every Week:

WARNING: Maintenance and repairs must be done by authorized personnel only. Always empty the solution tank and the recovery tank before doing any maintenance. Keep all fasteners tight.

WARNING: Always wear eye protection and protective clothing when working near batteries. Do not put tools or other metal objects across the battery terminals or the tops of the batteries.

CAUTION: To prevent damage to the machine, and discharge across the tops of the batteries, do not fill the batteries above the bottom of the tube in each cell. Wipe any acid from the machine or the tops of the batteries. Do not add acid to battery after installation.

WARNING: Always wear eye protection and protective clothing when working near batteries. NO SMOKING!

1. To inspect batteries, tip up recovery tank and latch the stop to hold the tank up. See Figure 7.
2. Disconnect the batteries. Use a cloth and a solution of ammonia or bicarbonate of soda to wipe the top of the batteries. Clean the battery terminals. Reconnect the batteries.
3. Check the hoses for leaks, obstructions and other damages.
4. Check and clean the filter screen in the solution hose. To clean the screen, follow this procedure: (See figures 13 and 14 page 24)
   a. Turn the connector to the left.
   b. Remove and clean the filter screen.
   c. Install the filter screen in the hose. Turn the connector to the right to connect the hose.
5. Use a grease gun to lubricate the caster. See figure 8.
6. Check the squeegee and the scrub brush or the pad driver for damage.
7. Check the squeegee and the vacuum hose for damage, leaks and obstructions.

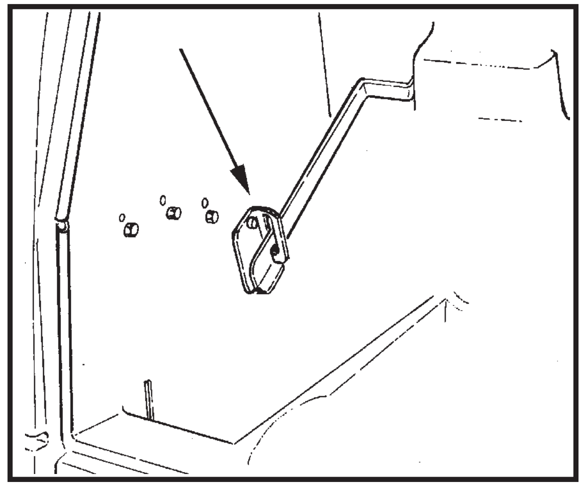


Figure 7

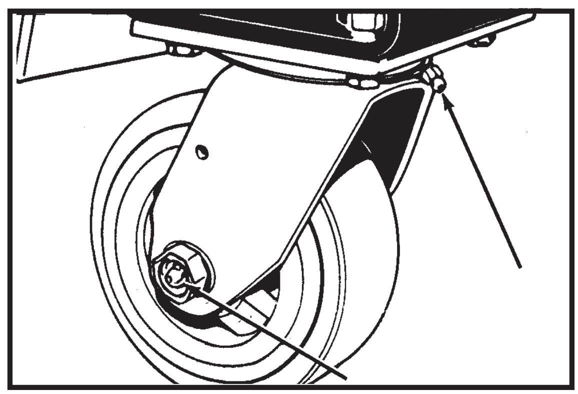


Figure 8

Maintenance For The Squeegee

To remove the squeegee, follow this procedure:

1. Remove the squeegee assembly by loosening the two knobs that attach the squeegee to the machine. Pull the squeegee assembly off. See figure 9.

2. Inspect the squeegee blade.

3. If the blade is worn, turn the blade so that a new edge is in the wiping position.

4. Reinstall squeegee assembly on the machine.

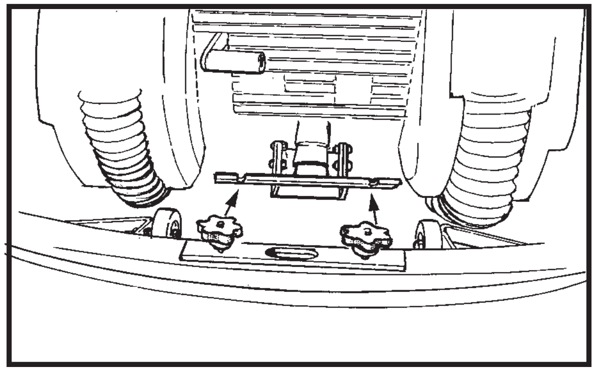


Figure 9

How To Adjust The Squeegee

The following adjustments are set at the factory, however they may require slight adjustment.

Adjusting Squeegee Pressure:
To adjust the pressure, refer to Figure 10. Proper adjustment will produce a uniform flare along the rear blade when the machine is moved forward. To increase pressure, loosen bolt and slide squeegee mount down. To decrease the pressure, loosen the bolt and slide squeegee mount up.

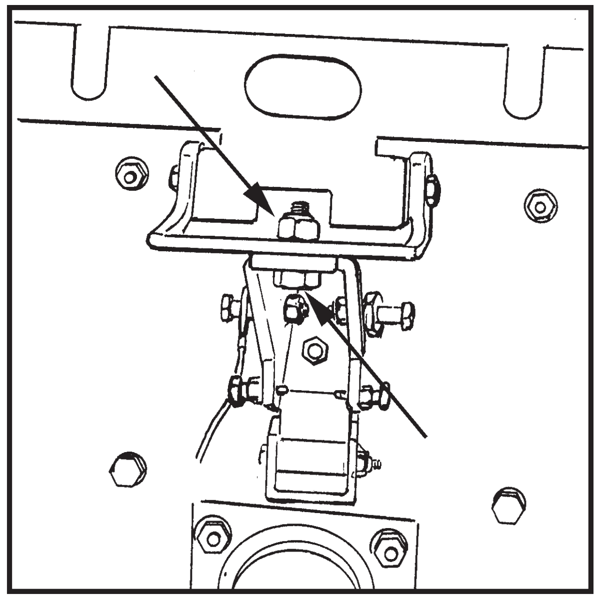


Figure 10

Adjusting Squeegee Tilt:
The tilt of the squeegee causes the rear blade to raise up in the center or on the ends, depending on which direction the tilt is changed. For tilt adjustment, refer to figure 11. Loosen left and right screw "X". In order to bring the rear blade down in the center, tip "Y" down. To bring both ends down, tip "Y" up. Make very small adjustments and try it until a uniform flare is achieved. Changing the tilt may also require readjusting the squeegee pressure.

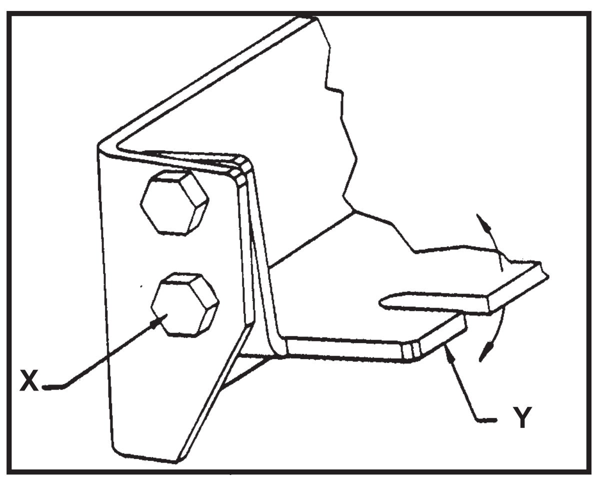


Figure 11

Adjusting Squeegee Swing:
The factory sets the squeegee swing for using the 33" squeegee. If you are using the optional 29" squeegee, the stop screws (page 35, ref. # 20) must be adjusted in. This is done by loosening the jam nut (page 35, ref. #10); turning the screw in; and then retightening the nut. The squeegee (29" or 33") is properly adjusted when it will swing all the way left or right to within 3/4" of the drive wheels without hitting them.

Adjusting Squeegee Blades:

When properly installed the front blade should be approximately .06 above the rear blade. See figure 12.

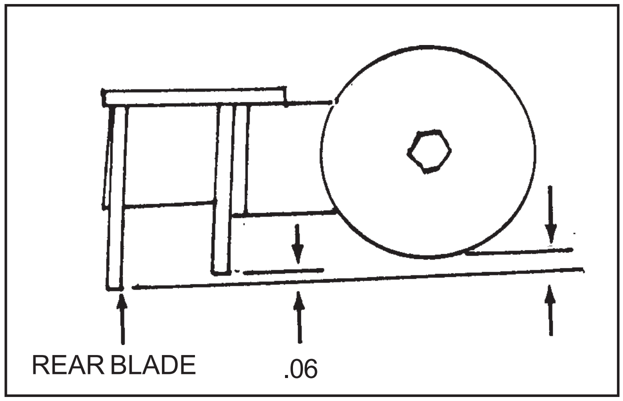


Figure 12

Adjusting Squeegee Support Wheels:

The support wheels should be set at .12 above the floor with the rear blade touching the floor. See figure 12.

WARNING: Maintenance and repairs must be done by authorized personnel only .

WARNING: Electrical repairs must be done by authorized personnel only.

Consult your Clarke Technology Authorized Service Person to do the service procedures.

Use only genuine Clarke Technology parts.

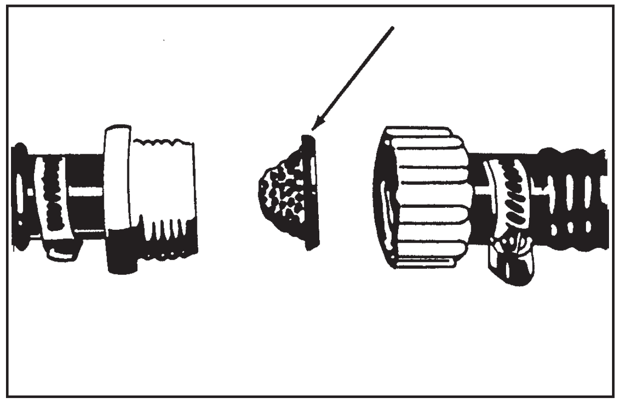


Figure 13

How to Clean the Solution Line

If the solution line becomes clogged, follow this procedure:

1. Turn key switch "OFF" and remove the key.
2. Open brush motor cover and remove brush housing.
3. Remove brushes/pads.
4. Locate the solution shut-off valve. It is located behind the left wheel.
5. Turn solution valve "OFF". See figure 14 (A).
6. Locate the solution filter screen. It is located on the back of the solution valve. See figure 14 (B).
7. Unscrew the female garden hose connector from the back of the solution valve. The filter screen is in the female connector.
8. Remove the filter screen. See figure 14 (B).
9. Clean and replace screen.
10. Attach the female garden hose connector to the solution valve.
11. Turn solution valve to "ON".

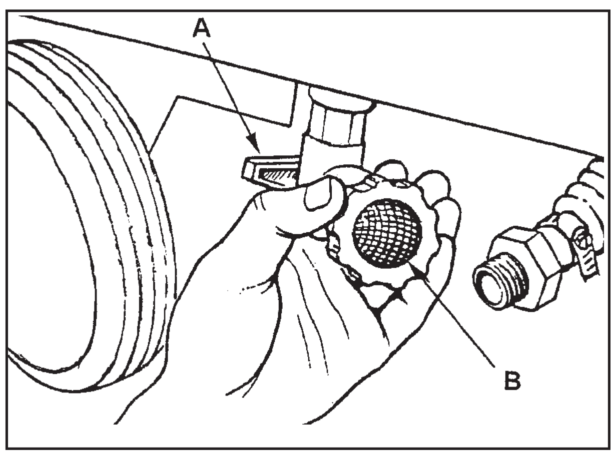


Figure 14

Battery Traverse - 115V

00881A

Breakdown:	00880A	Encore L20 Base Machine
	871334	Battery, 195 AH, Wet, 12 Volt (2)
	51447D	20" Polypropylene Brush
	40512A	24 VDC, 25 Amp, 115V/60 Hz Battery Charger

00882A

Breakdown:	00880A	Encore L20 Base Machine
	871334	Battery, 195 AH, Wet, 12 Volt (2)
	51453D	Pad Driver
	40512A	24 VDC, 24 Amp, 115V/60 Hz Battery Charger

Battery Traverse - 230V

00883A

Breakdown:	00880A	Encore L20 Base Machine
	871335	Battery, 195 AH, Dry, 12 Volt (2)
	51447D	20" Polypropylene Brush
	40513A	24 VDC, 25 Amp, 230V/50 Hz Battery Charger

00884A

Breakdown:	00880A	Encore L20 Base Machine
	871335	Battery, 195 AH, Dry, 12 Volt (2)
	51453D	Pad Driver
	40513A	24 VDC, 25 Amp, 230V/50 Hz, Battery Charger

Battery Traverse 115V

00885A

Breakdown:	00880A	Encore L20 Base Machine
	871376	Battery, 95 AH, Wet, 12 Volt (2)
	51447D	20" Polypropylene Brush
	40510A	24 VDC, 10 Amp, 115/60 Hz Battery Charger

00886A

Breakdown:	00880A	Encore L20 Base Machine
	871376	Battery, 95 AH, Wet, 12 Volt (2)
	51453D	Pad Driver
	40510A	24 VDC, 10 Amp, 115/60 Hz Battery Charger

Battery 230

00887A

Breakdown:	00880A	Encore L20 Base Machine
	871377	Battery, 95 AH, Dry, 12 Volt (2)
	51447D	20" Polypropylene Brush
	40511A	24 VDC, 10 Amp, 230V/50 Hz Battery Charger

00888A

Breakdown:	00880A	Encore L20 Base Machine
	871377	Battery, 95 AH, Dry, 12 Volt (2)
	51453D	Pad Driver
	40511A	24 VDC, 10 Amp, 230V/50 Hz Battery Charger

Battery 115V	**00891A**	*Breakdown:*	00890A	Encore S20 Base Machine
			871334	Battery, 195 AH, Wet, 12 Volt (2)
			51447D	20" Polypropylene Brush
			40512A	24 VDC, 25 Amp, 115/60 Hz Battery Charger
	00892A	*Breakdown:*	00890A	Encore S20 Base Machine
			871334	Battery, 195 AH, Wet, 12 Volt (2)
			51453D	Pad Driver
			40512A	24 VDC, 25 Amp, 115/60 Hz Battery Charger
Battery 230V	**00893A**	*Breakdown:*	00890A	Encore S20 Base Machine
			871335	Battery, 195 AH, Dry, 12 Volt (2)
			51447D	20" Polypropylene Brush
			40513A	24 VDC, 25 Amp, 230V/50 Hz Battery Charger
	00894A	*Breakdown:*	00890A	Encore S20 Base Machine
			871335	Battery, 195 AH, Dry, 12 Volt (2)
			51453D	Pad Driver
			40513A	24 VDC, 25 Amp, 230V/50 Hz Battery Charger
Battery 115V	**00895A**	*Breakdown:*	00890A	Encore S20 Base Machine
			871376	Battery, 95 AH, Wet, 12 Volt (2)
			51447D	20" Polypropylene Brush
			40510A	24 VDC, 10 Amp, 115V/60 Hz Battery Charger
	00896A	*Breakdown:*	00890A	Encore S20 Base Machine
			871376	Battery, 95 AH, Wet, 12 Volt (2)
			51453D	Pad Driver
			40510A	24 VDC, 10 Amp, 115V/60 Hz Battery Charger
Battery 230V	**00897A**	*Breakdown:*	00890A	Encore S20 Base Machine
			871377	Battery, 95 AH, Dry, 12 Volt (2)
			51447D	20" Polypropylene Brush
			40511A	24 VDC, 10 Amp, 230V/50 Hz Battery Charger
	00898A	*Breakdown:*	00890A	Encore S20 Base Machine
			871377	Battery, 95 AH, Dry, 12 Volt (2)
			51453D	Pad Driver
			40511A	24 VDC, 10 Amp, 230V/50 Hz, Battery Charger

Accessories

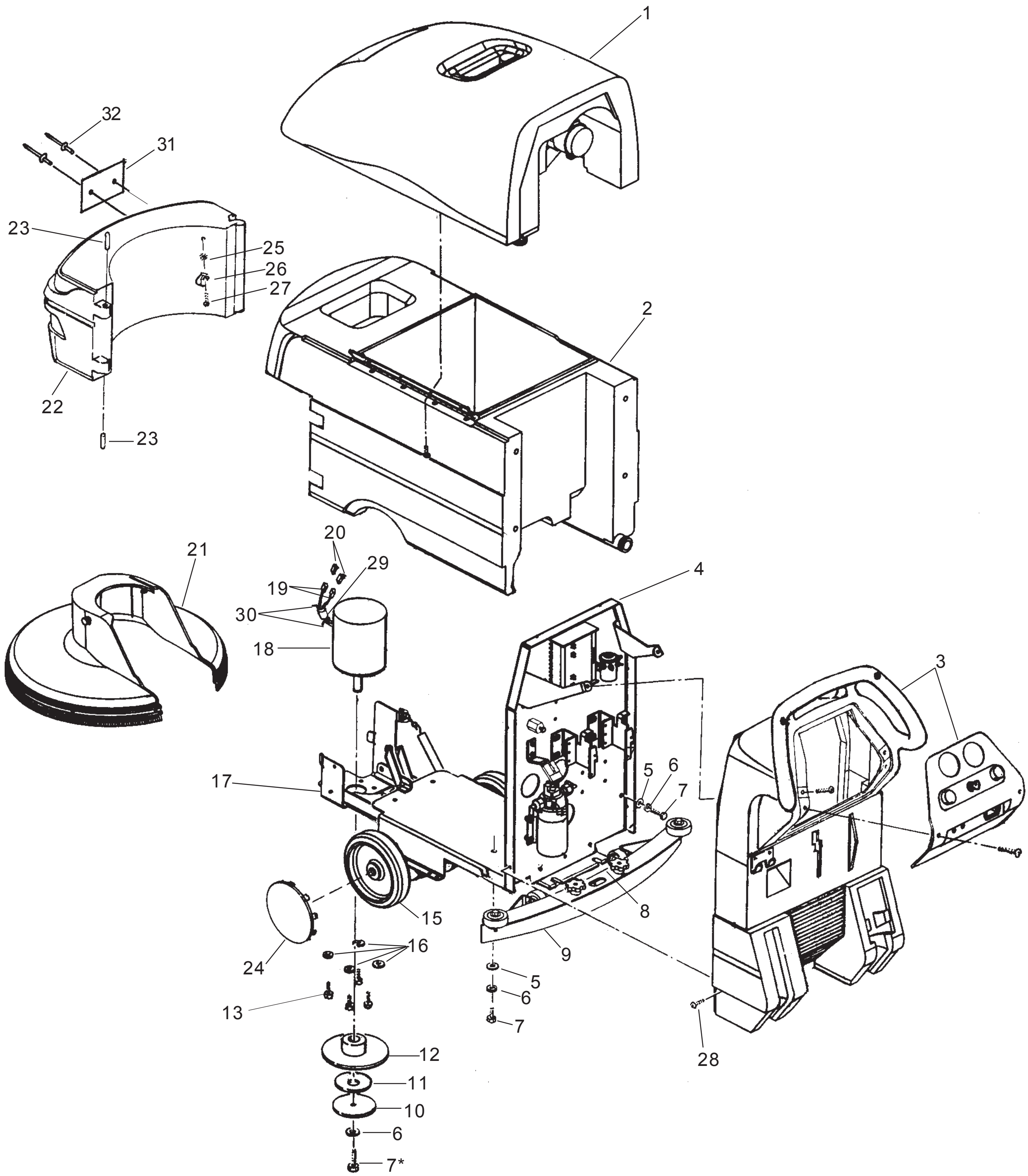
Description	Part No.
Pad Driver, Dual Direction	51453D
Base	57370A
Retainer	57369A
Pad/Brush Clutch Plate Metal	66649A
Spacer (for Clutch Plate 66649A)	58531A
Dual Direction Clutch Plate	30034A
Spacer (for Clutch Plate 30034A)	58530A
Clutch Plate Screws	962819
Clutch Plate Nuts	80084A
Grit Brush Dual Direction	51450D
Poly Brush Dual Direction	51447D
Clean Grit Dual Direction	51474D
Nylon Brush .016 Dual Direction	51482D
Kit, Conversion from metal to Dual Direction Clutch Plate	10055A
Power Wand Kit	10662A
ESP Recycle System Kit	10663A
Clarke Care Kit	14607A
Hour Meter Kit	10656A
29" Squeegee Kit	18820A
32" Squeegee Kit	10129A◆
Polydur, Protectant	50478A
Kit, Grease Gun	55420A
Kit, Low Voltage Cut-off 24 Volt	14097A
Brush Meter Option	10667A
Electronic Solution Module	10669A
Brake Option	10635A

Pads by Case

Color	2000
Yellow	979199
White	976067
Red	976068
Green	976169
Blue	976069
Brown	976070
Black	976170
Ultra H.S.	979206

N[redacted]dicates a change has been made since the last publication of this manual.

CLARKE TECHNOLOGY
Encore S20 / L20
Final Assembly Drawing 6/00



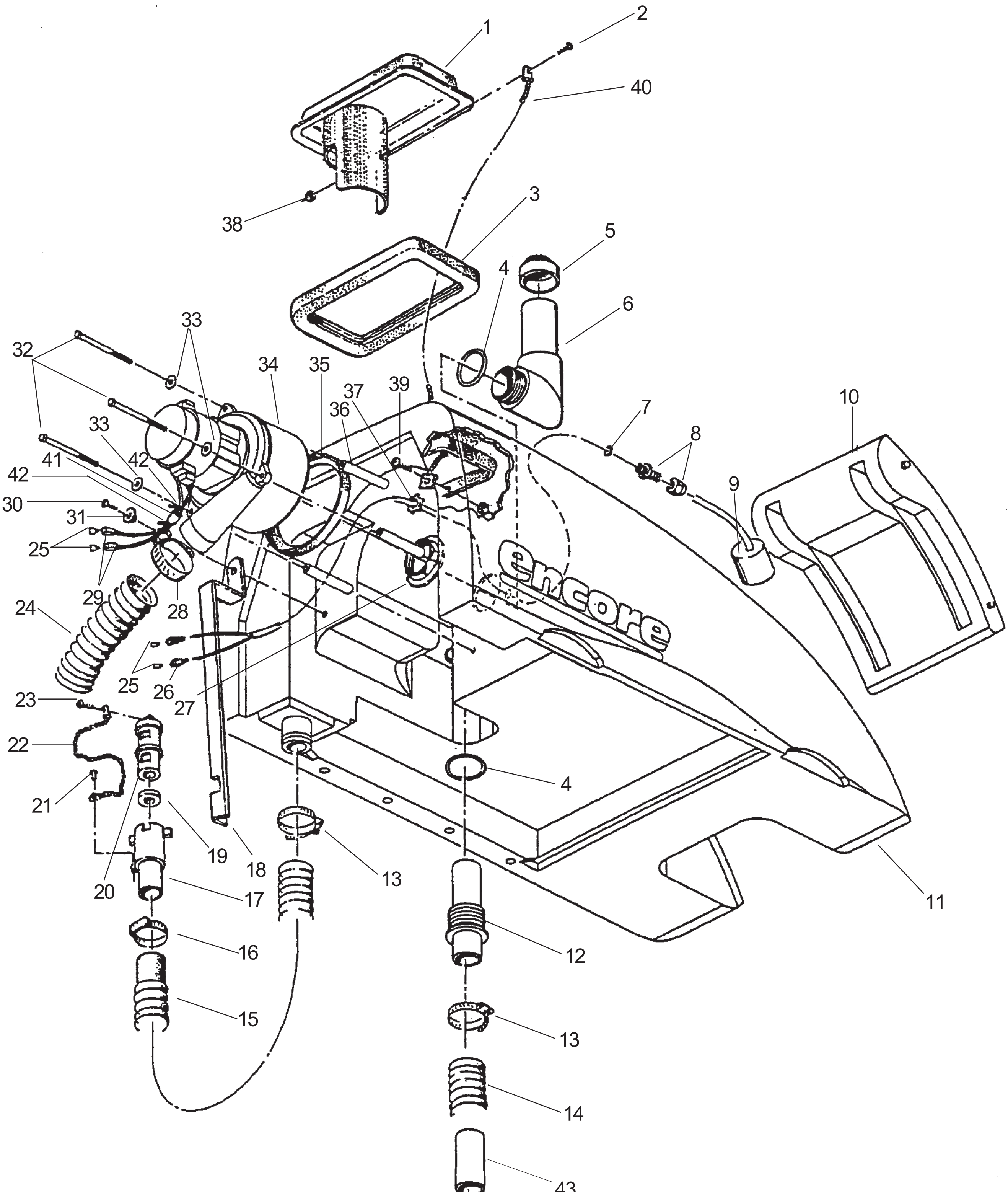
* Recommended 12 ft. lbs torque, also apply blue loctite.

CLARKE TECHNOLOGY
Encore S20 / L20
Final Assembly Parts List 6/01

Ref #	Part No.	Description	Qty. L20	Qty. S20
1	See Pg 30	Tank Asm., Recovery	Ref.	Ref.
2	See Pg 32	Tank Asm., Solution	Ref.	Ref.
3	See Pg 36	Cover Asm., Electrical	Ref.	Ref.
4	See Pg 34	Panel Asm., Rear	Ref.	Ref.
5	980651	Washer, Flat, 5/16	8	8
6	980652	Washer, Lock, 5/16	9	9
7	85811A	Screw, 5/16-18 x 3/4	9	9
8	See Pg 37	Lift Asm., Squeegee	Ref.	Ref.
9	See Pg 38	Squeegee Asm.	Ref.	Ref.
10	980210	Washer, Impeller	1	1
11	980679	Washer, Spacer, 3/16 x 1½ x 1/8	1	1
12	20308A	Adaptor, Motor	1	1
13	85727A	Screw, 3/8-16 x 1.0	4	4
15	See Pg 39	Transaxle Asm.	Ref.	-
	See Pg 40	Axle Asm.	-	Ref.
16	980638	Washer, Lock, 3/8	4	4
17	See Pg 41	Lift Asm., Brush	Ref.	Ref.
18	44809B	Motor, Brush	1	1
19	41601A	Connector	2	2
20	41602A	Housing, Connector	2	2
21	See Pg 42	Housing Asm., Brush	Ref.	Ref.
22	32403B	Cover, Front	1	1
23	36902A	Pins, Nylon	2	2
24	34711B	Hub Cap	2	2
25	980603	Washer, Lock #10 Ext.	1	1
26	872102	Nylon Clip	1	1
27	85903A	Screw	1	1
28	85518A	Screw	6	6
29	47202A	Suppressor	1	1
30	699202	Wire Tie	2	2
31	70164A	Plate, 20L	1	-
	70165A	Plate, 20S	-	1
32	83010A	Rivet	2	2
NI	See Pg 27	Brush or Pad Drivers	1	1
NI	41211A	Cable Asm., Battery	1	1
NI	41206A	Cable Series	1	1
NI	38720A	Spacer, Battery Front	1	1
NI	38721A	Spacer, Battery Side	1	1

NOTE: For battery placement and connections see page 8.

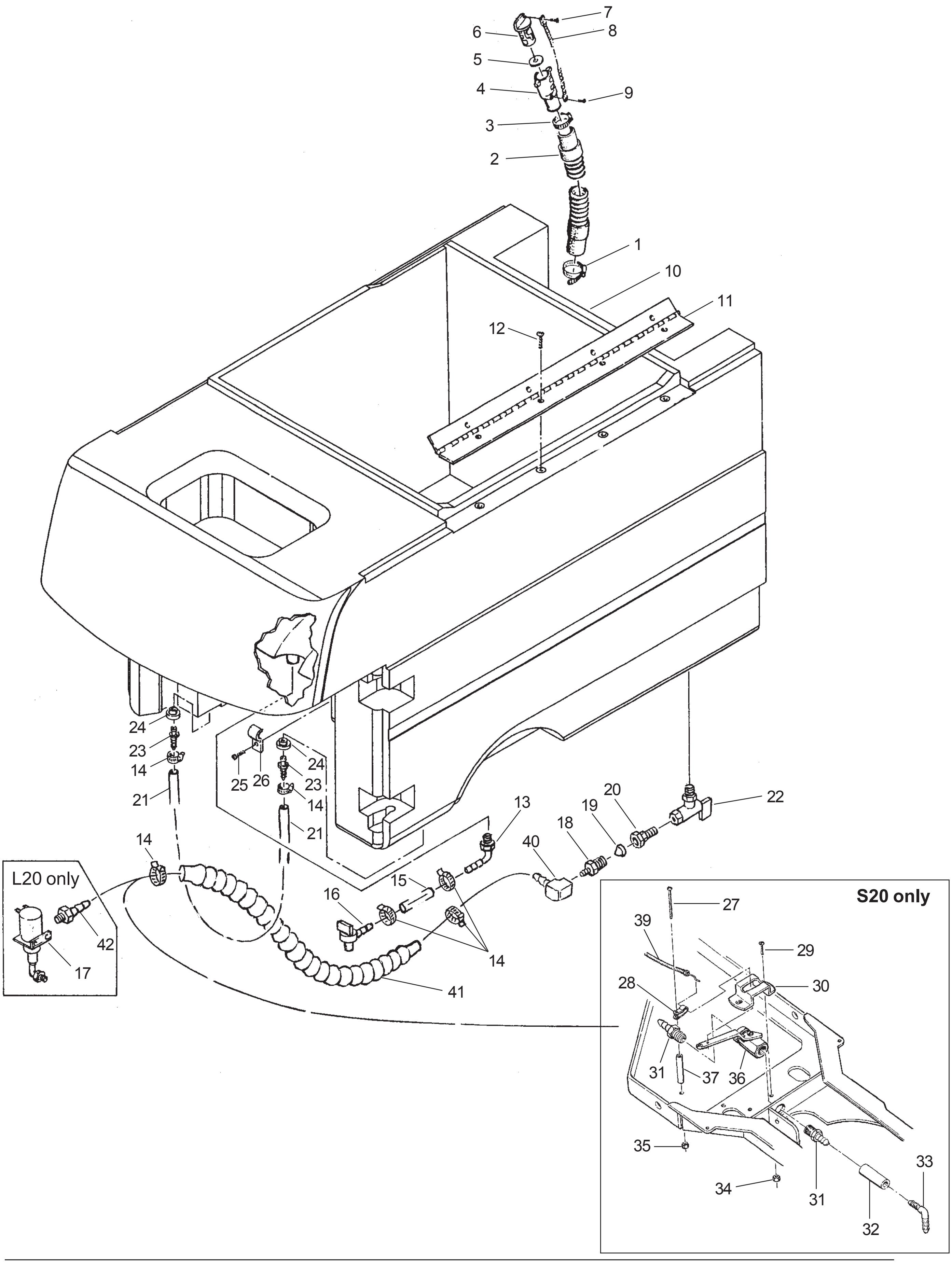
CLARKE TECHNOLOGY
Encore S20/L20
Recovery Tank Assembly Drawing 4/01



CLARKE TECHNOLOGY
Encore S20/L20
Recovery Tank Assembly Parts List 4/01
Drawing #18114A

Ref #	Part No.	Description	Qty.
1	36209A	Lid	1
2	962798	Screw, 10-24 x ½ Pan	1
3	34256A	Gasket, Lid	1
4	837304	O-Ring	2
5	58069A	Strainer	1
6	39336A	Tube, Stand	1
7	59877A	Seal, Washer	1
8	56459A	Relief, Strain	1
9	10660A	Switch, Float Kit (includes #'s 7,25,26)	1
10	32401B	Lid, Fill, Solution	1
11	38811B	Tank, Recovery	1
12	30132A	Tube, Stand	1
13	752020	Clamp, Hose	2
14	824103	Hose, Squeegee	1
15	30443A	Hose, Drain	1
16	832002	Clamp	1
17	839401	Valve, Drain	1
18	65503A	Latch, Recovery	1
19	833407	Gasket, Drain	1
20	833901	Drain Valve Handle	1
21	962943	Screw, 8-18 x ½ PN	1
22	52206A	Chain	1
23	962987	Screw, 10-24 x 3/8 Pan	1
24	674110	Hose	1
25	41809A	Contact	4
26	43402A	Housing, Connector	2
27	920797	Nut	1
28	872010	Clamp, Hose	1
29	43401A	Housing, Vac Motor Connector	2
30	962986	Screw, 5/16-18 x 3/4	1
31	87621A	Washer, Shoulder Nylon	1
32	85728A	Screw, ¼-20 x 4 Hex	3
33	87026A	Washer, Flat, ¼	3
34	44917A	Motor, Vac	1
35	643418	Gasket	1
36	58533A	Spacer	3
37	82100A	Nut, Lock	1
38	81110A	Nut, 10-24 ESNA	1
39	85519A	Screw	1
40	692409	Chain, Cover	1
41	47202A	Suppressor	1
42	699202	Wire Tie	2
43	52337A	Sleeve, Hose	1
NI	839410	Valve Asm. (includes Item#17,19, 20, 21, 22)	1

CLARKE TECHNOLOGY Encore S20/L20
Solution Tank Assembly Drawing 6/01

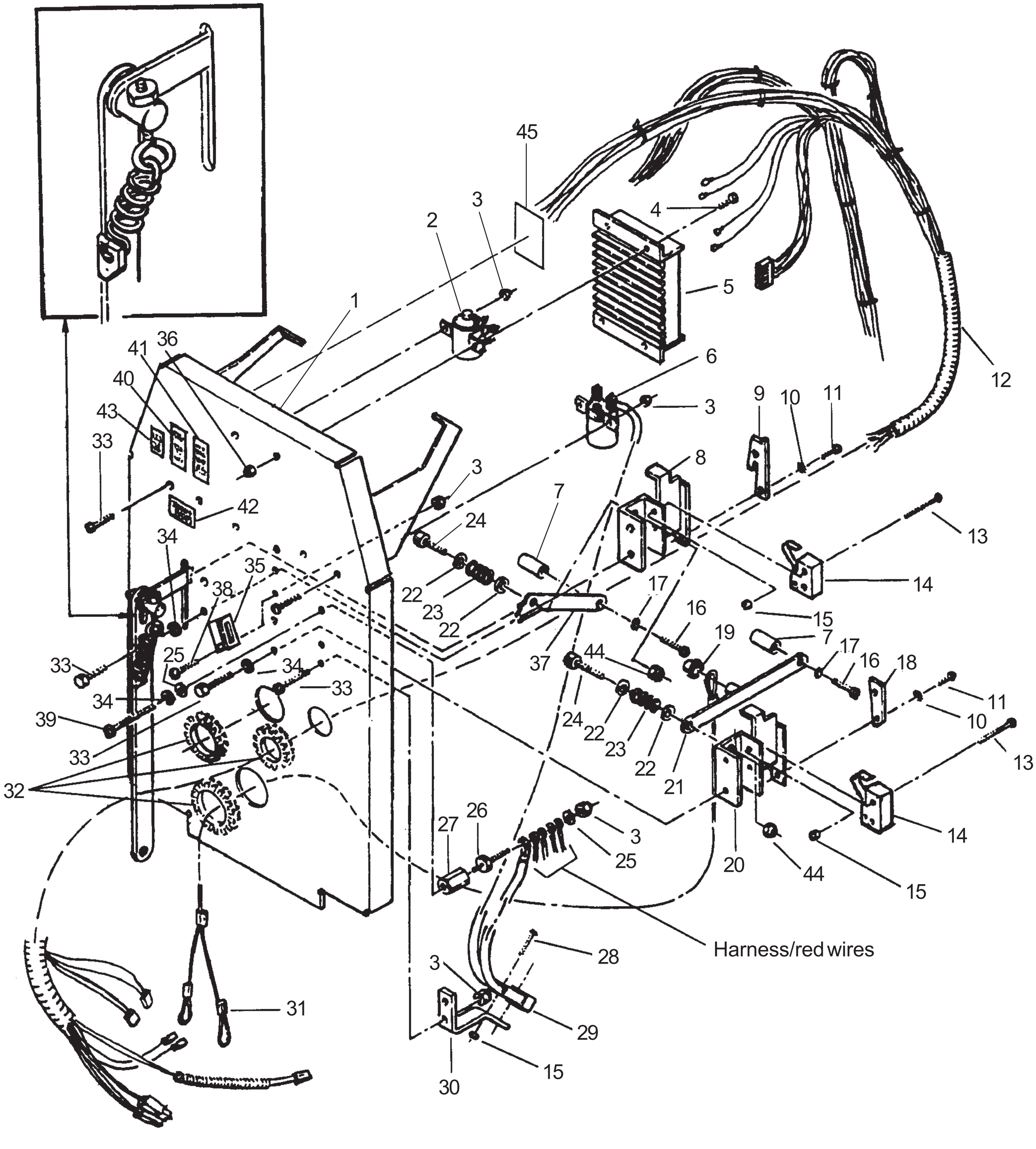


CLARKE TECHNOLOGY
Encore S20/L20
Solution Tank Assembly Parts List 6/01

Ref #	Part No.	Description	L20	S20
1	752020	Clamp	1	1
2	30442A	Hose, Drain	1	1
3	832002	Clamp	1	1
4	839401	Valve, Drain	1	1
5	833407	Gasket, Drain	1	1
6	833901	Drain Valve Handle	1	1
7	962987	Screw, 10-24 x 3/8	1	1
8	52206A	Chain	1	1
9	962943	Screw, 8-18 x ½ PN	1	1
10	38810B	Tank, Solution	1	1
11	64517A	Hinge, Solution/Recovery	1	1
12	85398A	Screw, ¼-20 x 5/8	4	4
13	55162A	Hosebarb	1	1
14◆	50248A	Clamp, Hose	6	6
15	39335A	Hose, 17'	1	1
16	59612A	Valve, Drain, Battery	1	1
17	59610A	Valve, Flow, Electric	1	-
18	30131A	Adaptor, Hose	1	-
19◆	838517	Filter, Screen	1	1
20◆	51205A	Adapter, Swivel, 3/8 NPT to GHT	1	1
21◆	30172A	Hose, Braided, .375 ID x 16½"	1	1
22◆	51204A	Valve, Solution, Shut-Off	1	1
23	52414A	Connector Straight Hose/Tank	2	2
24	51518A	Bushing	2	2
25	84237A	Screw, 10-32 x ½	1	1
26	782002	Clamp	1	1
27	85702A	Screw, ¼-20 x 1 3/4	-	1
28	832102	Clamp	-	1
29	962798	Screw 10-24-½	-	2
30	820823	Bracket	-	1
31◆	53618A	3/8 x 3/8 NPT Hosebarb	-	2
32	39337A	Hose 2½"	-	1
33	53607A	Hosebarb, Elbow	-	1
34	81110A	Nut, 10-24	-	2
35	81104A	Nut, ¼-20 ESNA	-	1
36	849401	Valve	-	1
37	678215	Spacer	-	1
38◆	53619A	3/8 x ¼ NPT Hosebarb	1	-
39	11703A	Solution Cable	-	ref.
40◆	53617A	Elbow, 3/8 x ¼ NPT Hosebarb	1	1
41◆	35138A	Hose, Solution	1	1
NI	839410	Valve Asm. (includes Item #4, 5, 6, 8, 9)	-	-
NI	39332A	Bulk 100 ft. of hose per P/N 39335A and 39337A		

NOTE: ◆ indicates a change has been made since the last publication of this manual.

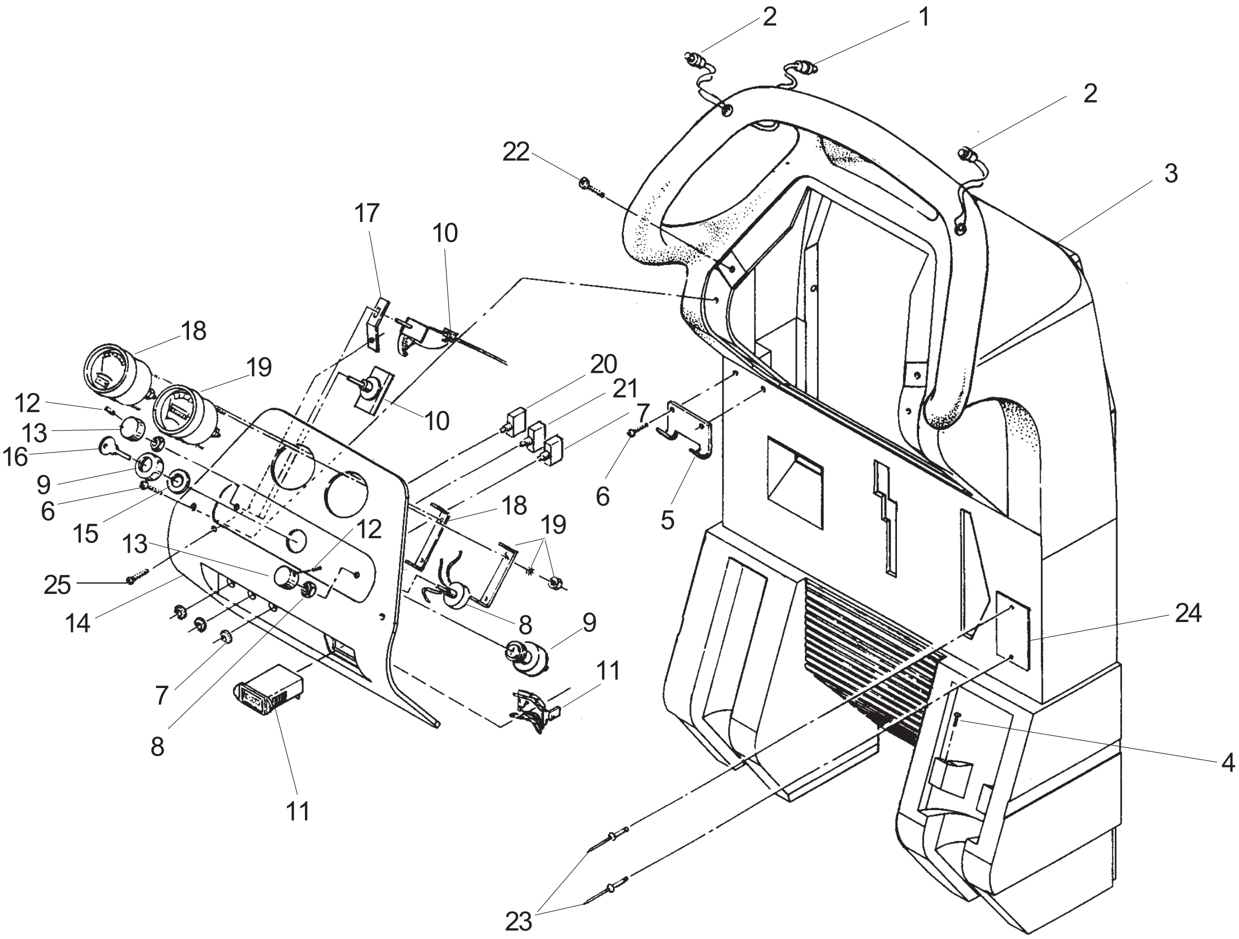
CLARKE TECHNOLOGY
Encore S20/L20
Rear Panel Assembly Drawing 5/99



CLARKE TECHNOLOGY
Encore S20/L20
Rear Panel Assembly Parts List 5/99

Ref #	Part No.	Description	Qty. L20	Qty. S20
1	68787A	Panel, Rear	1	1
2	878514	Solenoid, Vac	1	1
3	81104A	Nut, ¼-20	9	9
4	962798	Screw	4	0
5	41150B	Control, Speed	1	0
6	41810A	Solenoid, Brush	1	1
7	64490A	Handle	2	2
8	68789A	Lift , Brush	1	1
9	64231A	Plate, Wear, Lift, Brush	1	1
10	980603	Washer	4	4
11	962546	Screw, 10-24 x ½	4	4
12	49765A	Harness, Power L20	1	-
	49766A	Harness, Power S20	-	1
13	85601A	Screw, 6-32 x 1¼ PN	4	4
14	47374A	Switch	2	2
15	920056	Nut, 6-32	6	6
16	85389A	Screw, 3/8-16 x 5/8	2	2
17	980666	Washer, Starlock, 3/8	2	2
18	68643A	Plate, Wear, Vac	1	1
19	920346	Nut, Pal	1	1
20	61260A	Squeegee Lift Plate	1	1
21	64901A	Handle, Lift, Squeegee	1	1
22	980692	Washer, Flat, 5/16 SS	4	4
23	438360	Spring	2	2
24	80028A	Bolt, Shoulder, 5/16 x 1.0	2	2
25	87026A	Washer, Flat, ¼	2	2
26	83302A	Stud	1	1
27	854849	Insulator	1	1
28	962212	Screw, 6-32 x 7/8	2	2
29	41146A	Panel Power Harness	1	1
30	60676A	Bracket, Connector, Power	1	1
31	61677A	Cable, Lift, Squeegee	1	1
32	54606A	Grommet, Slotted, 7.75”	3	3
33	170915	Screw, ¼-20 x 3/4 Hex	10	10
34	980657	Washer, Lock, ¼	5	5
35	69858A	Latch, Tank, Recovery	1	1
36	81110A	Nut, 10-24 ESNA	4	-
37	64498A	Handle, Lift, Brush	1	1
38	85391A	Screw, ¼-20 x 5/8	2	2
39	85395A	Screw, ¼-20 x ½	1	1
40	77093A	Label	1	1
41	77092A	Label	1	1
42	70302A	Label, Battery Install	1	1
43	77233A	Label, CE	1	1
44	81217A	Nut, ¼-20 x .218H Nylock	2	2
45	70078A	Label, Traverse Troubleshooter	1	-

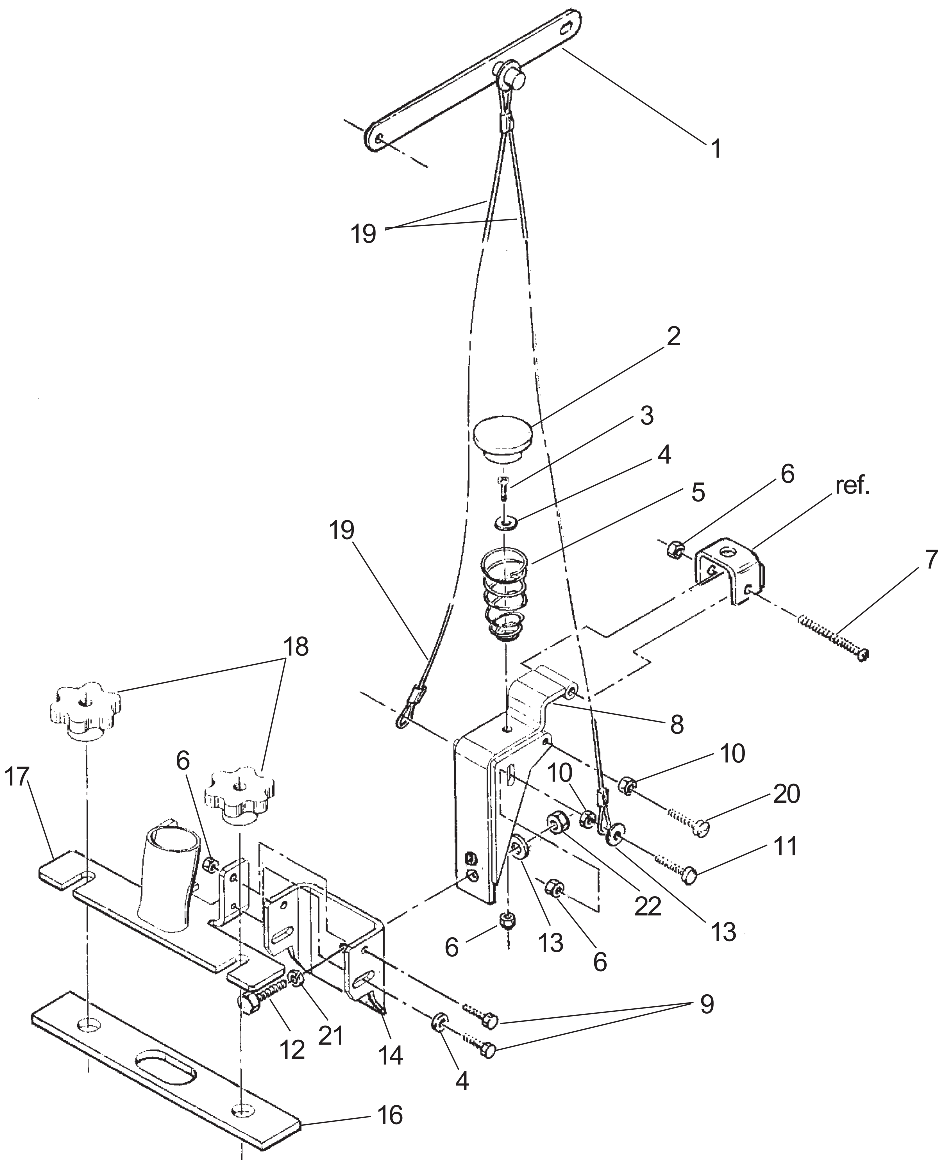
CLARKE TECHNOLOGY Encore S20/L20
Electrical Cover Assembly Drawing and Parts List 6/01



Ref #	Part No.	Description	Qty. L20	Qty. S20
1◆	53078B	Switch, Reverse	1	-
2◆	53077B	Switch, Forward/Reverse	2	-
3	32415B	Cover, Rear Encore 20L	1	
	32406B	Cover, Rear Encore 20S		1
4	962957	Screw	2	2
5	66987A	Hanger, Hose	1	1
6	84237A	Screw	4	4
7	41433A	Breaker, 40 Amp, Brush	1	1
8	45702A	Potentiometer, Asm. (Included w/mach. harness 49765A)	1	-
9	47380A	Switch, Key	1	1
10◆	44308B	Control, Flow, Solution	1	-
	11703A	Cable, Solution	-	1
11	912226	Meter, Hour	1	-
12	962262	Screw, Set, 8-32 x ¼	2	1
13	55502A	Knob	2	1
14	32405A	Panel, Control L20	1	-
	32413A	Panel, Control S20	-	1
15	87052A	Washer, Switch	1	1
16	55413A	Key (included with #9)	2	2
17	66988A	Retainer, Clip	-	1
18◆	40217B	Meter, Battery	1	1
19	40218A	Meter, Brush	1	-
20	41422A	Breaker, 25 Amp, Traverse	1	-
21	41448A	Breaker, 30 Amp, Vac	1	1
22	85518A	Screw, ¼-20 x ¾ PN	2	2
23	83010A	Rivet	2	2
24	70080A	Plate (models without brake)	1	1
	70079A	Plate (models with brake)	1	1
25	85388A	Screw 10-24 x ½ TP-F	-	1
NI	47708A	¼ F.I.M.Q.D	6	-
NI	47700A	¼ F.I.F.Q.D	1	-

NOTE: ◆ indicates a change has been made since the last publication of this manual.

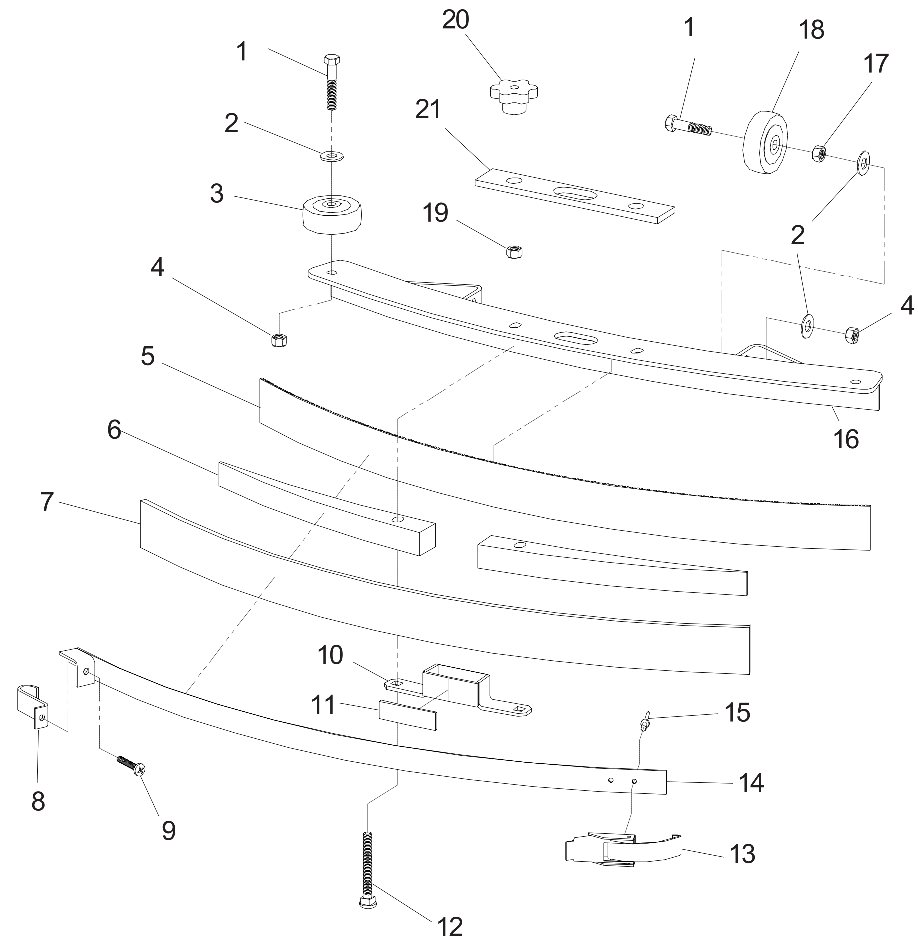
CLARKE TECHNOLOGY Encore S20/L20
Squeegee Lift Assembly Drawing and Parts List 6/01
Drawing # 18814A



Ref #	Part No.	Description	Qty.
1	ref.21,pg34	Handle	-
2	30517A	Bushing	1
3	85600A	Screw, ¼-20 x ³/₄	1
4	87026A	Washer, ¼, SS	3
5	50034A	Spring, Squeegee	1
6	81104A	Nut, Nylock, ¼	6
7	85396A	Screw, ¼-20 x 2 SS	1
8	60225A	Swivel, Squeegee	1
9	170915	Screw, ¼-20 x ³/₄	4
10	920208	Nut, ¼-20, Plated	4
11	962481	Screw, ¼-20 x 1¼ Hex	2
12	85730A	Screw, ³/₈-16, Hex	1
13	87031A	Washer, Flat, ³/₈, SS	3
14	69860B	Pin, Bracket Weldment	1
16◆	34260B	Gasket, Squeegee	Ref.
17	61263A	Bracket, Tube	1
18◆	25201A	Knob, Clamping	Ref.
19	61677A	Cable, Lift, Squeegee	-
20	86408A	Screw, ¼-20x1 Truss	2
21	980638	Lockwasher, ³/₈ LT Spring Type	1
22	81111A	Nut, 3/8-16 ESNA	1

NOTE: ◆ indicates a change has been made since the last publication of this manual.

CLARKE TECHNOLOGY Encore S20/L20
Squeegee Assembly Drawing and Parts List 5/99
29" Asm. - 18820A (Optional)
33" Asm. - 18821A



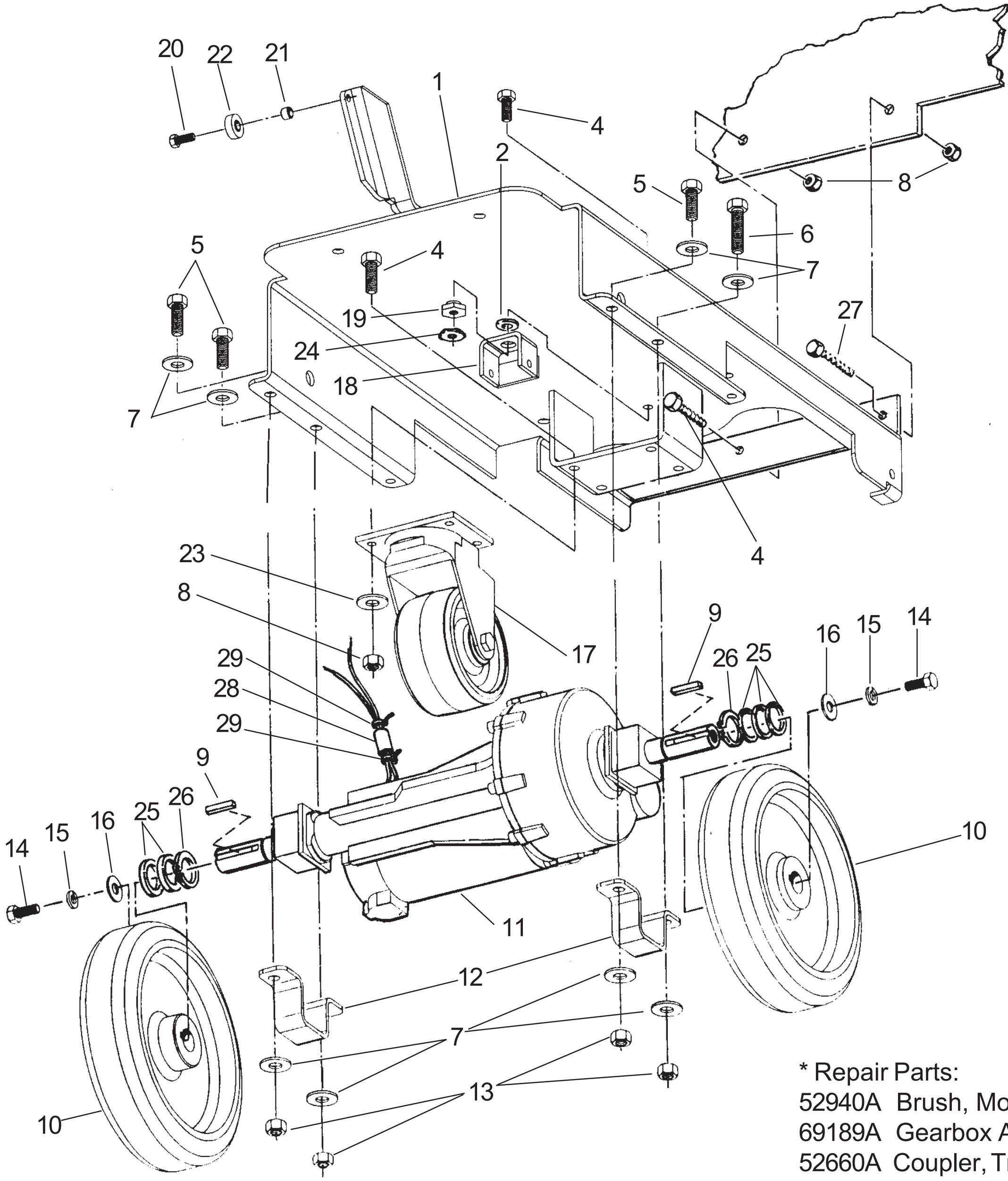
Ref #	Part No.	Description	29"	33"
1	962522	Screw, 3/8-16 x 2" Hex	4	4
2	980687	Washer, 15/32 I.D. x 15/16 O.D.	6	6
3	59950A	Wheel, Guide	2	2
4	81111A	Nut, 3/8-16 ESNA	4	4
5	30950A	Blade, Ribbed, Urethane	-	1
	30951A	Blade, Ribbed, Urethane	1	-
6	38713A	Spacer, 29"	2	-
	38719A	Spacer, 33"	-	2
7	30931A	Blade, Rubber, Outer	1	-
	30946A	Blade, Rubber, Outer	-	1
8	62421A	Clamp, End	1	1
9	86004A	Screw, ¼-20 x 1½ Hex	1	1
10	62712A	Duct, Squeegee Inlet	1	1
11	37016A	Pad, Squeegee Grip	1	1
12	80011A	Screw, 3/8-16 x 3 CR S.S.	2	2
13	55722A	Latch, Squeegee Strap	1	1
14	62442A	Clamp, Squeegee 29"	1	-
	62445A	Clamp, Squeegee 33"	-	1
15	170932	Rivet, Pop 3.16 S.S. 1/8"	2	2
16	69059A	Squeegee Weldment 29"	1	-
	69672A	Squeegee Weldment 33"	-	1
17	81207A	Nut, 3/8-16 S.S.	2	2
18	419702	Wheel	2	2
19	81301A	Nut, 3/8-16 Jam S. S.	2	2
20	25201A	Knob	Ref	Ref
21	34260B	Gasket	Ref	Ref

Optional:

NI 30938A Nitrile 29" Outer Blade
NI 30949A Nitrile 33" Outer Blade
NI 30930A Rubber 29" Inner Blade
NI 30947A Rubber 33" Inner Blade

NOTE:
When changing blades loosen nuts #19. Clamp blades on squeegee. Retighten #19 nuts. This will allow spacer #6 to readjust to different blade thickness.

CLARKE TECHNOLOGY Encore L20
Frame Transaxle Assembly Drawing and Parts List 5/99
Drawing # 14545A



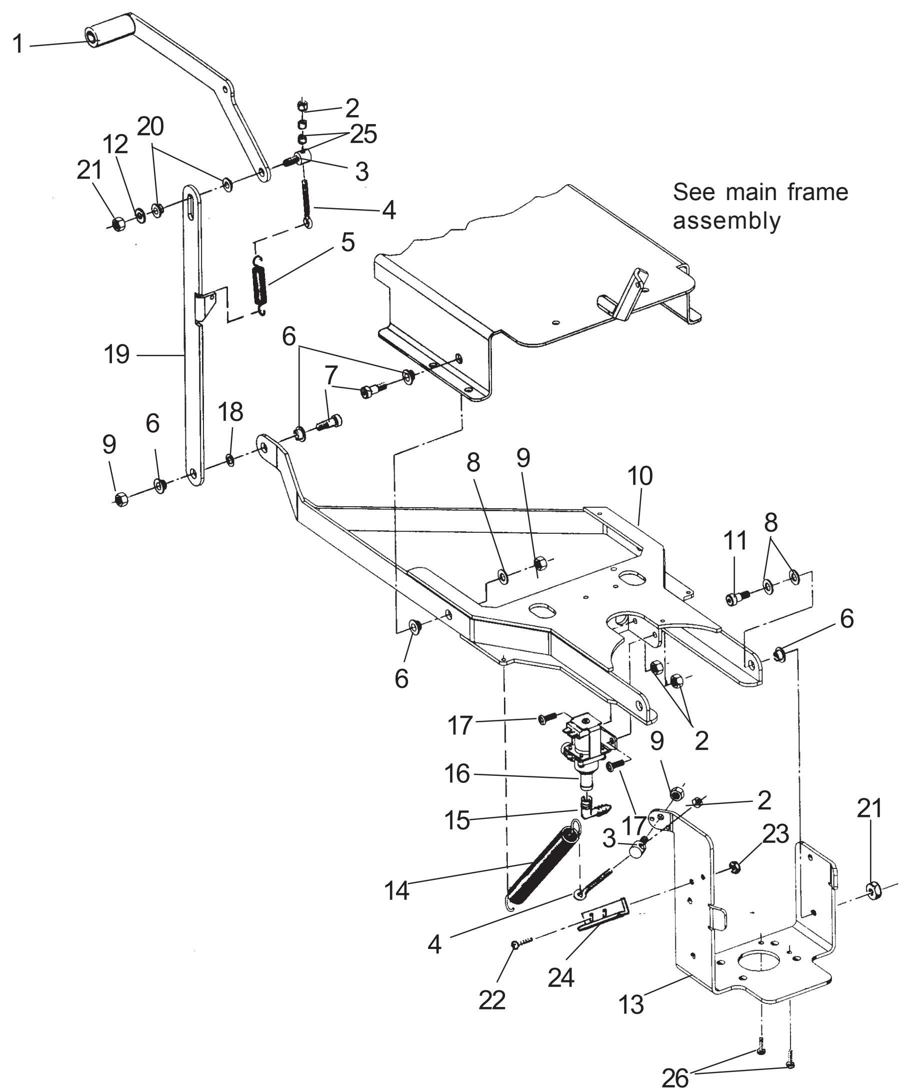
* Repair Parts:

52940A	Brush, Motor Asm.	1
69189A	Gearbox Asm.	1
52660A	Coupler, Transaxle	1
45044A	Motor, Transaxle	1

Ref #	Part No.	Description	Qty.
1	63431A	Frame	1
2	87607A	Washer, Nylon	1
4	85811A	Screw, $^{5}/_{16}$-18 x $^{3}/_{4}$	7
5	85727A	Screw, $^{3}/_{8}$-16 x 1	3
6	85836A	Screw, $^{3}/_{8}$-16 x 2	1
7	87031A	Washer, Flat, $^{3}/_{8}$, SS	8
8	920110	Nut, $^{5}/_{16}$-18 ESNA	7
9	915044	Key, $^{3}/_{16}$ x $^{3}/_{16}$ x 1	2
10	69204B	Wheel, Traverse (Grooved)	2
	69204A	Wheel, Traverse (Smooth)opt.	2
11*	69165A	Transaxle	1
12	62435A	Clamp, Transaxle	2
13	81105A	Nut, $^{3}/_{8}$-16 ESNA	4
14	962620	Screw, Hex, $^{5}/_{16}$-24 x $^{3}/_{4}$	2

Ref #	Part No.	Description	Qty.
15	980652	Washer, Lock, $^{5}/_{16}$	2
16	980205	Washer	2
17	61675A	Caster	1
18	61252A	Bracket, Squeegee	1
19	67867A	Nut, Spacer	1
20	85391A	Screw, $^{1}/_{4}$-20 x $^{5}/_{8}$	1
21	608210	Spacer, Bolt	1
22	51516A	Bushing	1
23	980651	Washer, Flat, Plated, $^{5}/_{16}$	4
24	81112A	Nut, $^{5}/_{16}$ ESNA Thin SS	1
25	87616A	Washer	5
26	57423A	Ring, Retainer	2
27	85814A	Screw, $^{5}/_{16}$ -18 x 1¼	1
28	47202A	Suppressor	1
29	699202	Wire Tie	2

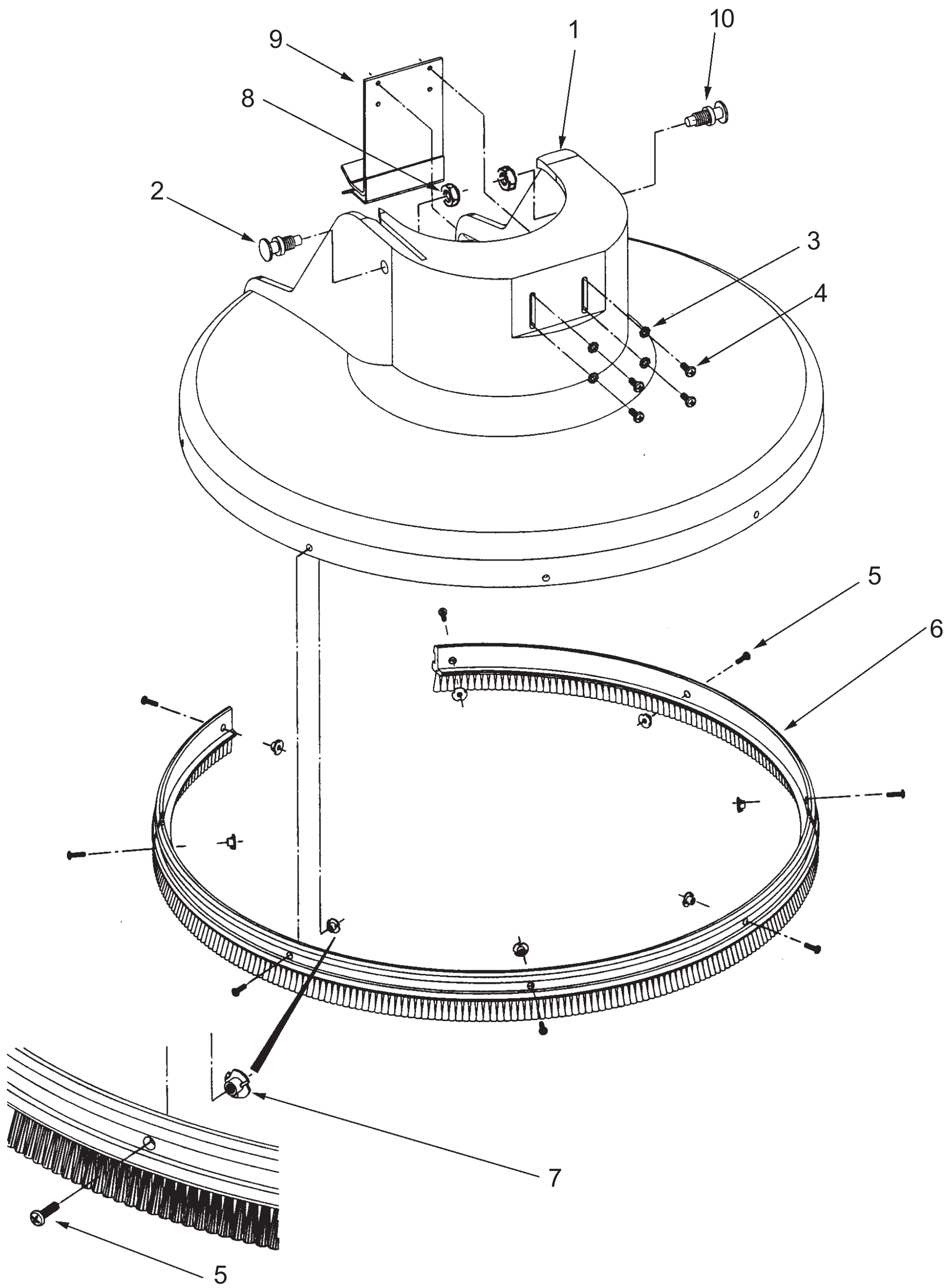
CLARKE TECHNOLOGY
Encore S20/L20
Brush Lift Assembly Drawing and Parts List 6/00
Drawing #11446A



Ref #	Part No.	Description	Qty.
1	ref. 37, pg33	Handle, Lift, Brush	-
2	81104A	Nut, ¼-20 ESNA	4
3	848508	Swivel, Rod, Brake	2
4	80042A	Screw, Eye, Adjustment	2
5	58691A	Spring, Pressure, Sander	1
6	87620A	Washer, Shoulder,	8
7	80041A	Bolt, Shoulder, 3/8 x ½	3
8	87618A	Washer	6
9	920181	Nut, 5/16, ESNA	4
10	63432A	Frame, Brush Lift	1
11	80040A	Bolt, Shoulder, 3/8 x 3/8	2
12	980692	Washer	1

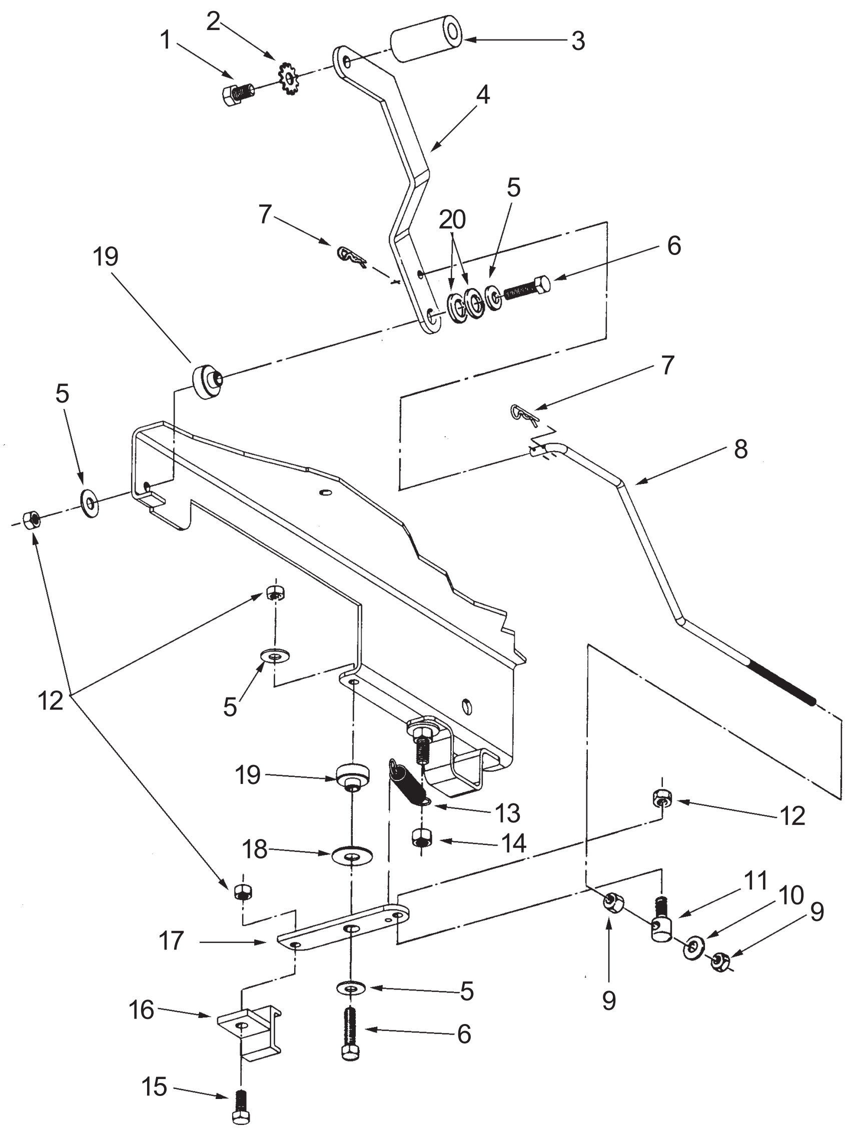
Ref #	Part No.	Description	Qty.
13	69861A	Bracket, Motor, Brush	1
14	56493A	Spring	1
15	53607A	Hosebarb	1
16	59610A	Valve, Solution	Ref
17	85391A	Screw, ¼-20 x	2
18	87619A	Washer, 375032	1
19	65710A	Link, Brush Lift	1
20	87621A	Washer, 3001	2
21	81112A	Nut, 5/16-18 Thin ESNA SS	3
22	962798	Screw 10-24 x ½	2
23	81110A	Nut 10-24	2
24	64239A	Plate, Deflector	1
25	608210	Spacers (optional)	
26	962554	Screw	2

CLARKE TECHNOLOGY
Encore S20/L20
Brush Housing Assembly Drawing and Parts List 4/00
Drawing # 11447A



Ref #	Part No.	Description	Qty.
1	35241B	Housing, Brush (S20)	1
2	636706	Pin	1
3	980603	Washer	4
4	962798	Screw, 10-24 x ½	4
5	84237A	Screw, 10-32 x ½	8
6	38241A	Skirt, Fibers	1
7	82004A	Nut, 10-32 "T"	8
8	920278	Nut, ½-20 S.S. Jam	2
9	62438A	Bracket, Stop, Housing, Brush	1
10	66550A	Pin	1

CLARKE TECHNOLOGY
Encore S20/L20
Optional Brake Drawing and Parts List 5/98
Form # 10635A

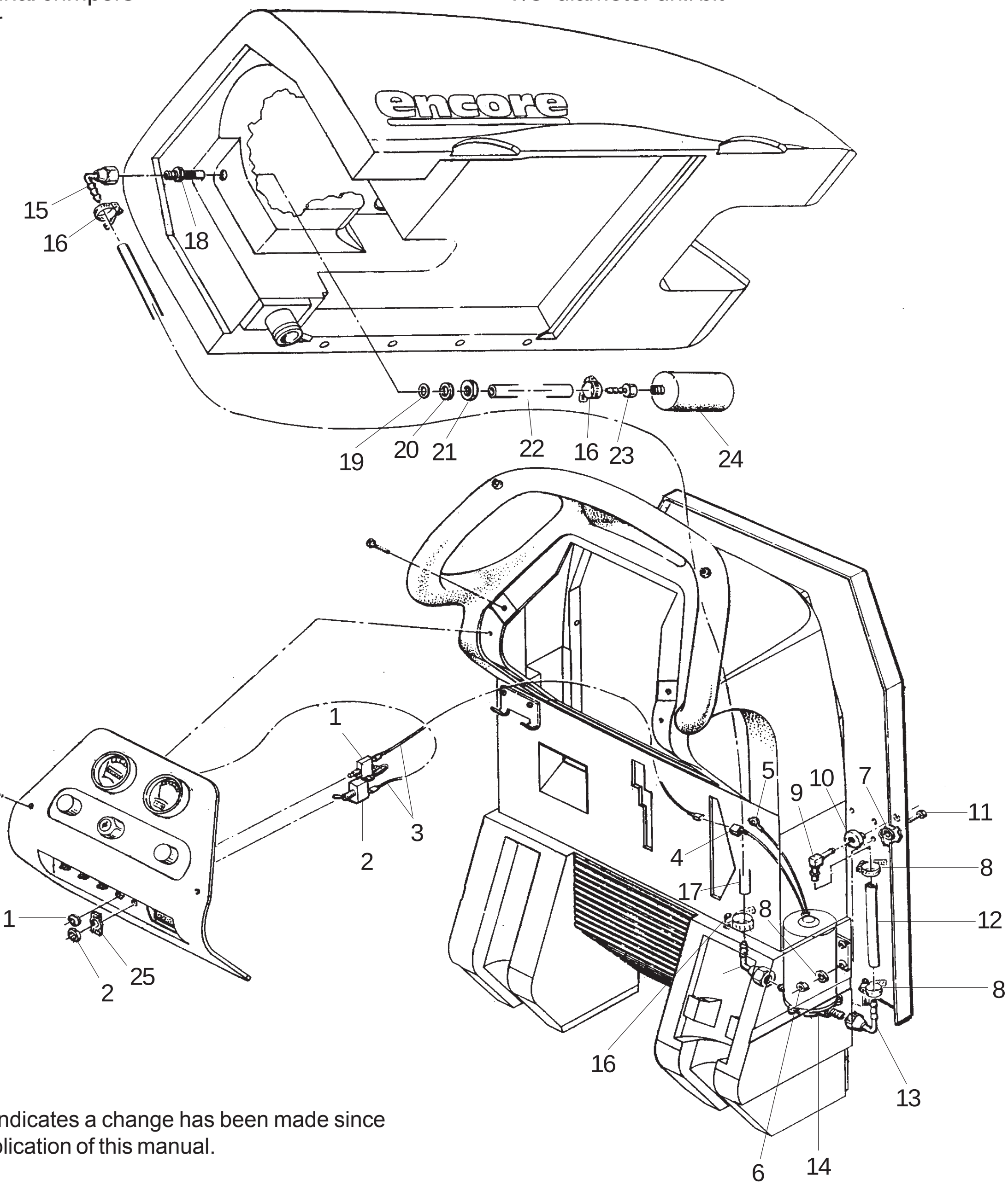


Ref #	Part No.	Description	Qty.
1	85389A	Screw, 3/8-16 x 5/8	1
2	980666	Washer, Starlock, 3/8	1
3	64490A	Handle	1
4	65627A	Brake, Lever	1
5	980651	Washer, Flat, 5/16	4
6	85814A	Screw, 5/16-18 x 1¼	2
7	836711	Clip	2
8	67161A	Rod, Brake	1
9	81104A	Nut, ¼-20 ESNA	2
10	87026A	Washer, Flat, ¼	1
11	848508	Swivel, Rod, Brake	1
12	920110	Nut, 5/16-18 ESNA	4
13	848302	Spring, Arm, Brake	1
14	81105A	Nut, 3/8-16 ESNA	1
15	85811A	Screw, 5/16-18 x 3/4	1
16	66212A	Pad, Brake	1
17	60451A	Bar, Brake	1
18	87607A	Washer, Flat, Nylon, ½	1
19	67877A	Spacer	2
20	980673	Washer	2

CLARKE TECHNOLOGY
Encore S20/L20 Drawing & Parts List
ESP Recycle System Kit 10663A 6/01

Tools Needed:

Adjustable wrench	3/8" diameter drill bit
Short or right angle Phillips® screwdriver	7/16" diameter drill bit
Wire strippers	15/32" diameter drill bit
Wire terminal crimpers	7/8" diameter drill bit
Drill motor	



NOTE: ◆ indicates a change has been made since the last publication of this manual.

Ref #	Part No.	Description	Qty
1	41418B	Breaker, Circuit 10 Amp	1
2	47320A	Toggle Switch	1
3	49770A	Harness, ESP	1
4	47905A	Terminal, Male Q.D.	1
5	911933	Terminal, Ring	1
6	920296	Nut, 10-24 ESNA	4
7	980643	Washer #10	8
8	722021	Hose Clamp	2
9	51526A	Barb, 90°	1
10	51518A	Bushing	1
11	962862	Screw 10-24 x 1½	4
12◆	30172A	Hose 8"	1
13	692870	Elbow, Swivel	1

Ref #	Part No.	Description	Qty
14	45937A	Pump	1
15	53631A	Elbow, Swivel Pump	2
16	722030	Hose clamp	3
17	30451A	Hose PVC	1
18	50342A	Adapter, Recovery Tank	1
19	56682A	O Ring	1
20	980019	Washer, Nylon	1
21	920802	Nut, Nylon	1
22	30452A	Hose, Clear 17½"	1
23	55112A	Hose Barb	1
24	53997A	Filter	1
25	646302	Plate, Switch	1
NI	699202	Cable Ties	12

Low Voltage Cut-Off Kit 14097A

GENERAL: The purpose of this device is to prevent over discharge of the batteries in your machine. This is done by turning off the brush motor(s) when the battery pack voltage falls too low.

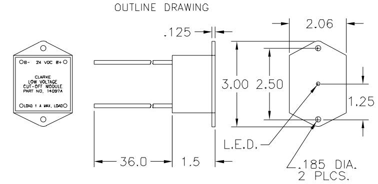
WARNING: After installing this device, the brush motor(s) will turn off automatically and without warning.

WARNING: If there is any possible hazard in turning off the brush motor(s) automatically and without warning, do NOT install this module.

WARNING: This module will NOT control a high current load directly. A high current load may be controlled by the module by wiring the the module to turn off the coil of a solenoid.

NOTE: This module will NOT protect against low voltage damage caused by any other non-controlled function.

OUTLINE DRAWING



MOUNTING: This device may be mounted in any position as long as it is securely fastened. It is recommended that the module be mounted with the trip indicator visible through the control panel. This can be accomplished by drilling three 13/64" holes 1 1/4" apart in a straight line in the selected location.

Page 1

INSTALLATION INSTRUCTIONS FOR LOW VOLTAGE CUT-OFF MODULE

If it has been determined that shutting off the brush motor(s) will NOT create any possible hazard, inspect the schematic of your machine to locate the control wires for the brush motor solenoid.

This module is to be wired in series with the coil of the brush solenoid. This is done by removing one of the two wires attached to the solenoid's operating coil and joining this wire to one of the white (LOAD) wires from the module. The other white wire attaches to the terminal from which the original control wire was removed. The module must not interrupt more than 1 amp or it may be damaged.

Connect the red (B+) to a source of positive battery voltage and the black (B-) to a source of negative battery voltage. The best place to connect the red and black wires is on the load side of the disconnect plug. This is the plug that is not attached to the battery pack. If your machine does not have a battery pack disconnect plug, connect the red and black wires to the load side of the main power switch. This is the side of the switch that turns on and off, not the "hot" side. Proper polarity must be observed for correct module operation.

TRIPPING: When the battery pack voltage falls low enough to require recharging, the brush motor(s) will stop and the L.E.D. on the module will come on. These two indications tell the operator the batteries are low and must be recharged.

RESETTING: To reset the module, recharge the batteries. The machine main power switch must be turned off before recharging the batteries for the module to reset properly.

Page 2

SPECIFICATIONS:

GENERAL: This device shall be used to prevent damage to components that are sensitive to operating on low voltage by opening a control circuit when a low voltage condition is detected.

DETECTION: A low voltage condition shall be detected when the voltage between B+ and B- falls below the TRIP VOLTAGE for the TRIP TIME. Upon tripping, the internal relay contacts shall open the LOAD terminals and they shall remain open until RESET.

RESET: The contacts of the internal relay shall be re-closed by waiting the RESET TIME with no voltage between B+ and B- and and the re-applying a voltage greater than the RESET VOLTAGE.

TRIP VOLTAGE: 21.0 VDC +/- 0.5 VDC

TRIP TIME: 10 seconds +/- 2 seconds

RESET TIME: 100 seconds +/- 10 seconds

RESET VOLTAGE: 23.5 VDC +/- 0.5 VDC

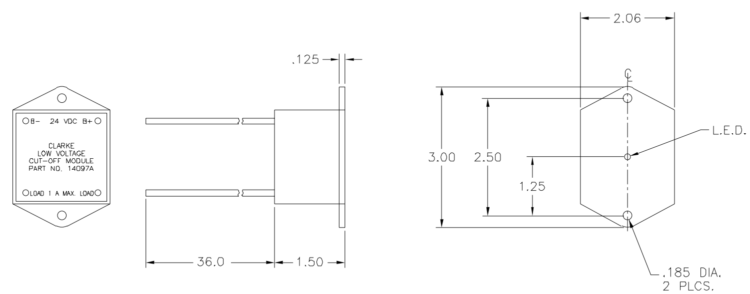
RATED SYSTEM VOLTAGE: 24 VDC

CONTROL CIRCUIT CURRENT: Up to 1 Amp @ 24 VDC

PACKAGE: Plastic container 1.5" H x 2" W x 3" L with two 0.185" diameter holes on 2.5" centers.

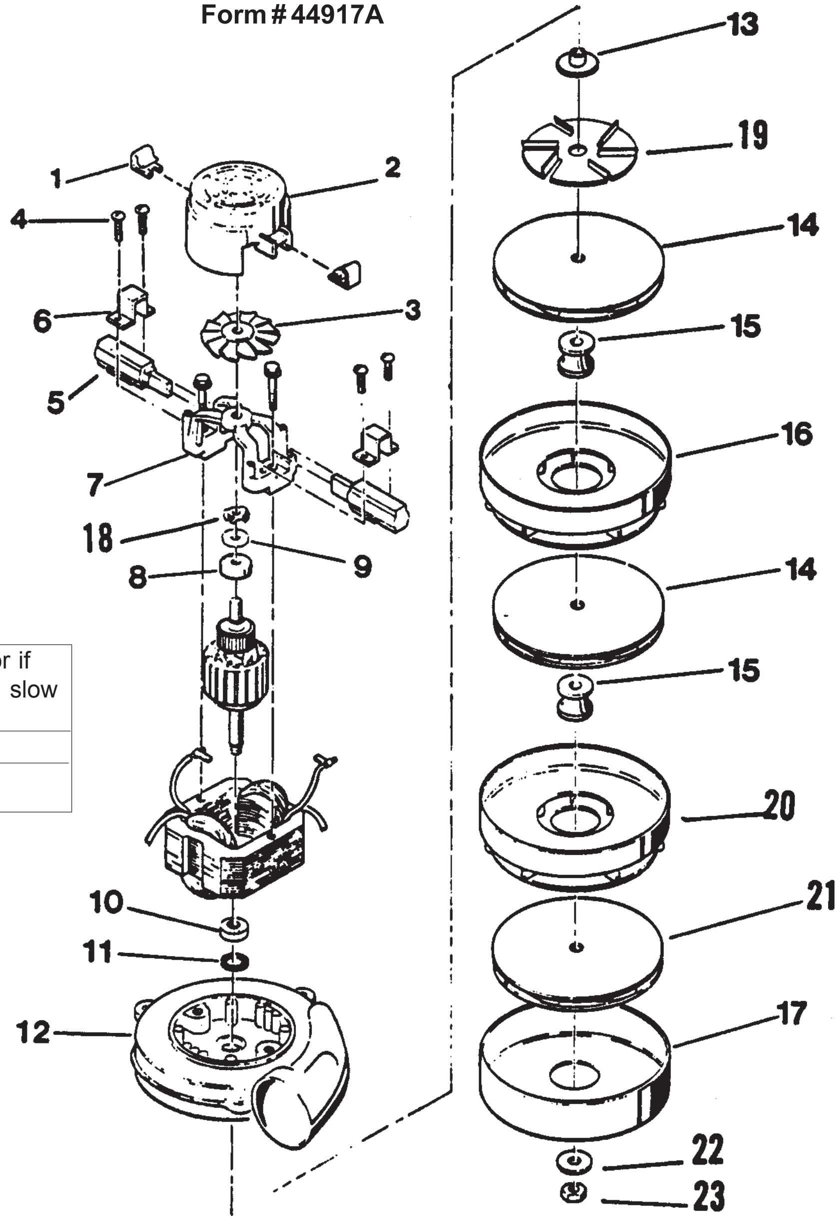
TRIP INDICATOR: Red LED centered between mounting holes turns on when in tripped condition.

CONNECTIONS: Four #18 gauge lead wires 36" long. B+ to be red, B- to be black, and LOAD to be white.



1. ONE (1) COPY OF INSTALLATION INSTRUCTIONS TO BE PACKAGED WITH ONE (1) MODULE TO PRODUCE ONE (1) KIT.

CLARKE TECHNOLOGY Encore S20/L20
Vacuum Motor Model
Drawing 4/01
Form # 44917A



* Recommended Brush Replacement

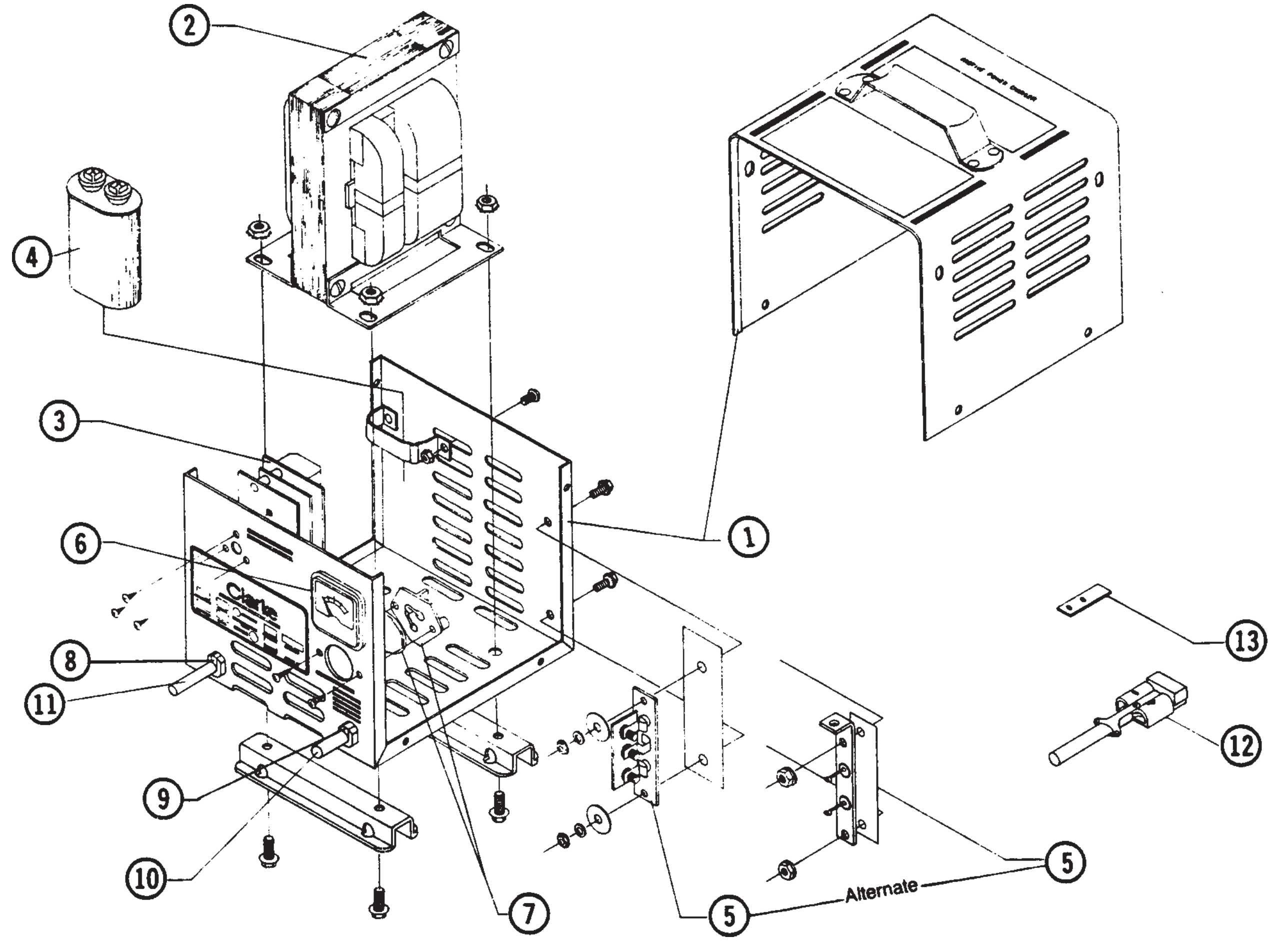
1st	Replace at 800 hours or if vacuum motor runs too slow to pick up water
2nd	50% of 1st
3rd	33% of 1st

Ref #	Part No.	Description	Qty
* 1		Clip (optional)	2
2	54809A	Housing Vent	1
3		Fan	1
4	85303A	Screw - 8x32 - 3/8 P.N.	4
5	40817A	Brush, Mechanism	2
* 6		Clamp	2
7	50618A	Bracket, Commutator End	1
8		Bearing	1
9	672714	Disc	1
10		Bearing	1
11	59803A	Washer, Neoprene	1
12		Bracket, Fan End	1
* 13		Spacer	1

Ref #	Part No.	Description	Qty
14	53914A	Fan, Rotating	2
15	658201	Spacer	2
* 16		Fan, Stationary	1
* 17		Shell, Fan	1
* 18		Spring, Load	1
* 19		Fan, Air Seal	1
* 20		Fan, Stationary	1
* 21		Fan, Rotating	1
* 22		Washer	1
* 23		Nut	1

***NOTE:** Parts not available at this time.

CLARKE TECHNOLOGY
Encore S20/L20
Battery Charger Drawing and Parts List 7/97



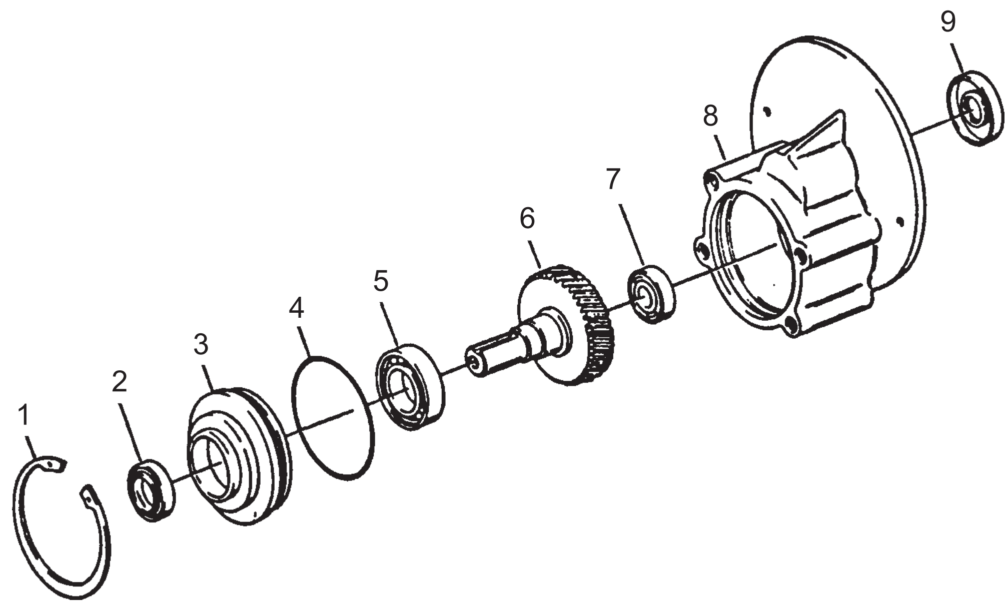
WARNING: **All electrical repairs must be performed by qualified personnel only**.

Charger #40512A: 24 volt, 25 amp D.C., 115 volt, A.C., 60 Hz.
Charger #40513A: 24 volt, 25 amp D.C., 230 volt, A.C., 50 Hz

Ref. No.	Description	Charger 40512A	Charger 40513A
1	Charger Case	41129A	* --------
2	Transformer	* --------	48409A
3	Electronic Controller Kit	47500A	48200A
4	Capacitor, 660 V.A.C.	912132	912132
5	Heat Sink Assembly	912212	912212
6	Ammeter	40200A	40200A
7	Fuse Holder	912382	912382
8	Strain Relief, A.C. Cord	* --------	* --------
9	Strain Relief, D.C. Cord	747553	747553
10	D.C. Cord Assembly	51986A	51986A
11	A.C. Cord Assembly	51974A	908947
12	Housing, Red	911470	* --------
13	D.C. Plug Lock Key	795020	795020

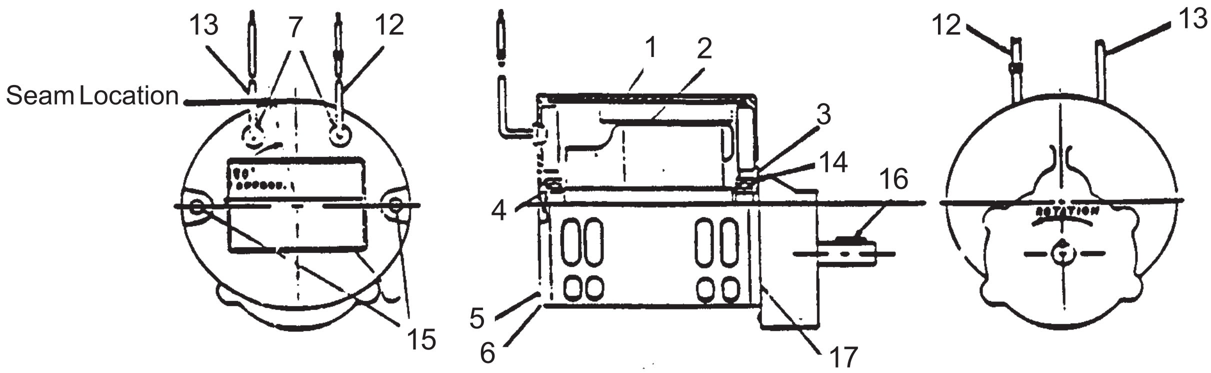
* NOTE: Parts not available at this time.

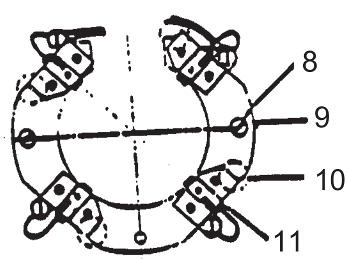
CLARKE TECHNOLOGY
Encore S20/L20
Gearbox Assembly Drawing and Parts List 7/97
Form #54238A



Ref #	Part No.	Description	Qty
1	57846A	Ring, Snap	1
2	507641	Seal, Oil, Small	1
3	52050A	Cap End	1
4	56668A	O-Ring	1
5	51176a	Bearing, Large	1
6	58316A	Shaft & Gear	1
7	902605	Bearing, Small	1
8	54883A	Housing	1
9	58144A	Seal, Oil Large	1
10	NI	Darina EP2 Grease	4 oz.

CLARKE TECHNOLOGY
Encore S20/L20
Brush Motor Drawing & Parts List 4/01
Motor Asm. 44809B

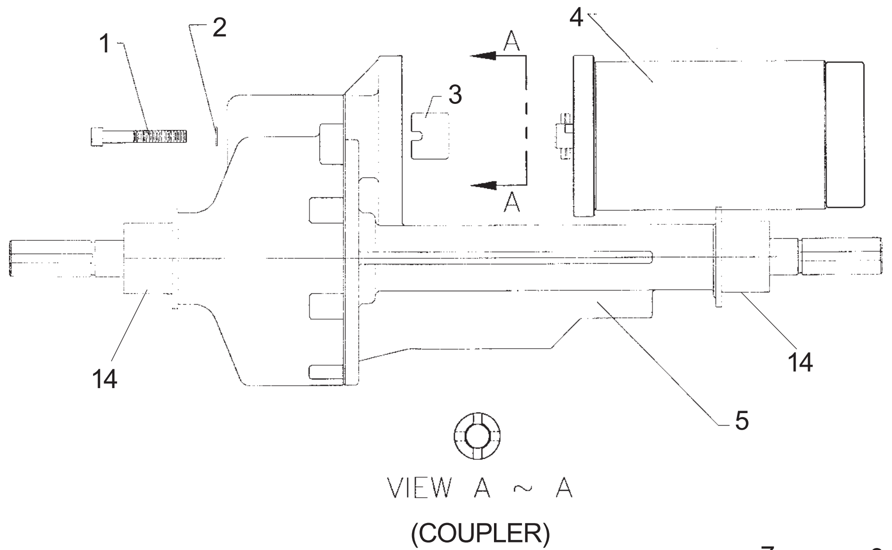


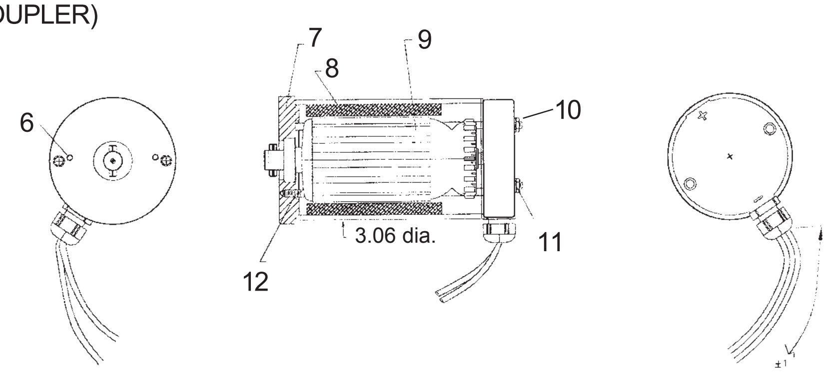


Item	Part No.	Description	Qty
1	56478A	Stator Frame Assembly (w/Magnets & Clips)	1
2	50142A	Armature Assembly (w. B.E. & F.E. Bearings)	1
3	902654	Bearings B.E.	1
4	902550	Bearing F.E.	1
* 5		Commutator Bracket Assembly (w/Brush BRD Assembly Leads)	1
6	50520A	Commutator Bracket	1
7	56480A	Strain Relief	2
8	962546	Brush Board Screw	2
9	50517A	Brush Board Assembly (w/ Springs & Brushes)	1
10	448396	Brush Spring	4
11	40826A	Brush Assembly	4
12	55657A	Lead Assembly	1
13	55656A	Lead Assembly	1
* 14		Helical Washer	1
15	50515A	Thru Bolt	2
16	80501A	Shaft Key	1
17	54238A	B.E. Bracket Assembly (Gear Box)	1

* NOTE: Parts not available at this time.

Transaxle Repair Parts 4/01

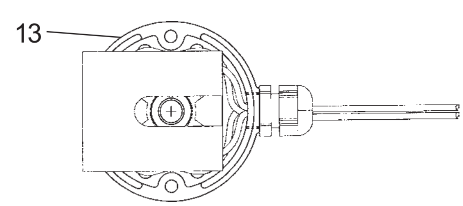




Ref #	Part No.	Description	Qty.
1		Screw, ¼-20	-
2		Washer, ¼ Lock	-
3	52660A	Coupler	1
4	45044A	Motor	1
5	69189A	Transaxle Gearbox Assembly	1
6		Pin, Dowel	-
7		End Plate, Output	-
8		Magnet and Housing Assembly	-
9		Armature and Bearing Assembly	-
10		Washer, #10 Lock	-
11		Nut 10-32	-
12		Stud	-
13	52940A	Commutator End Bell & Brush Asm.	1
14	51202A	Mount, Bushing	2

Torque #1 80 inch pounds
Torque #11 40-45 inch pound tooth nuts
#12 Loctite #262

NOTE: Transaxle unit is sealed. No lubrication required



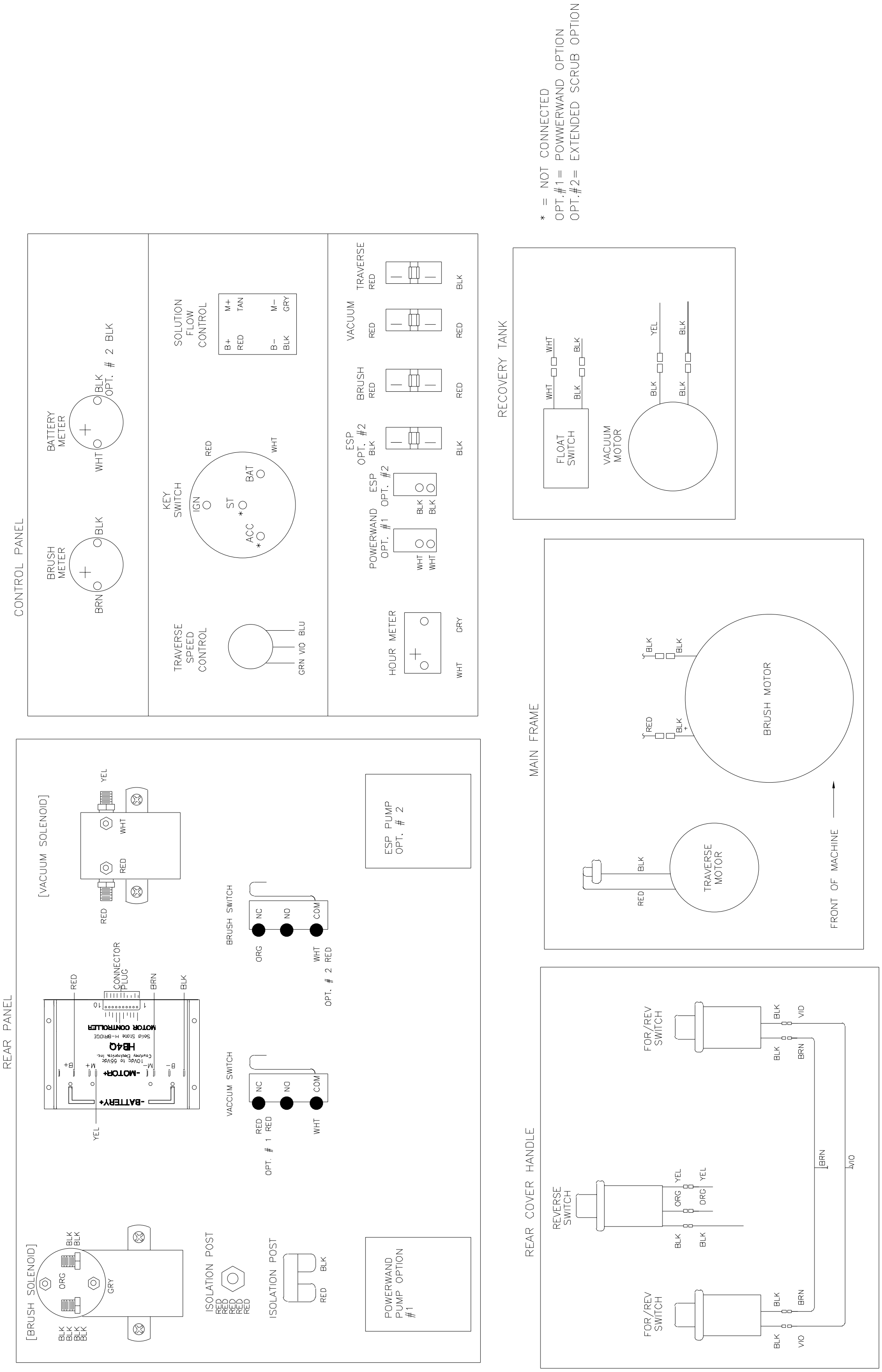
Commutator Endbell and Brush Assembly

Installation Instructions:

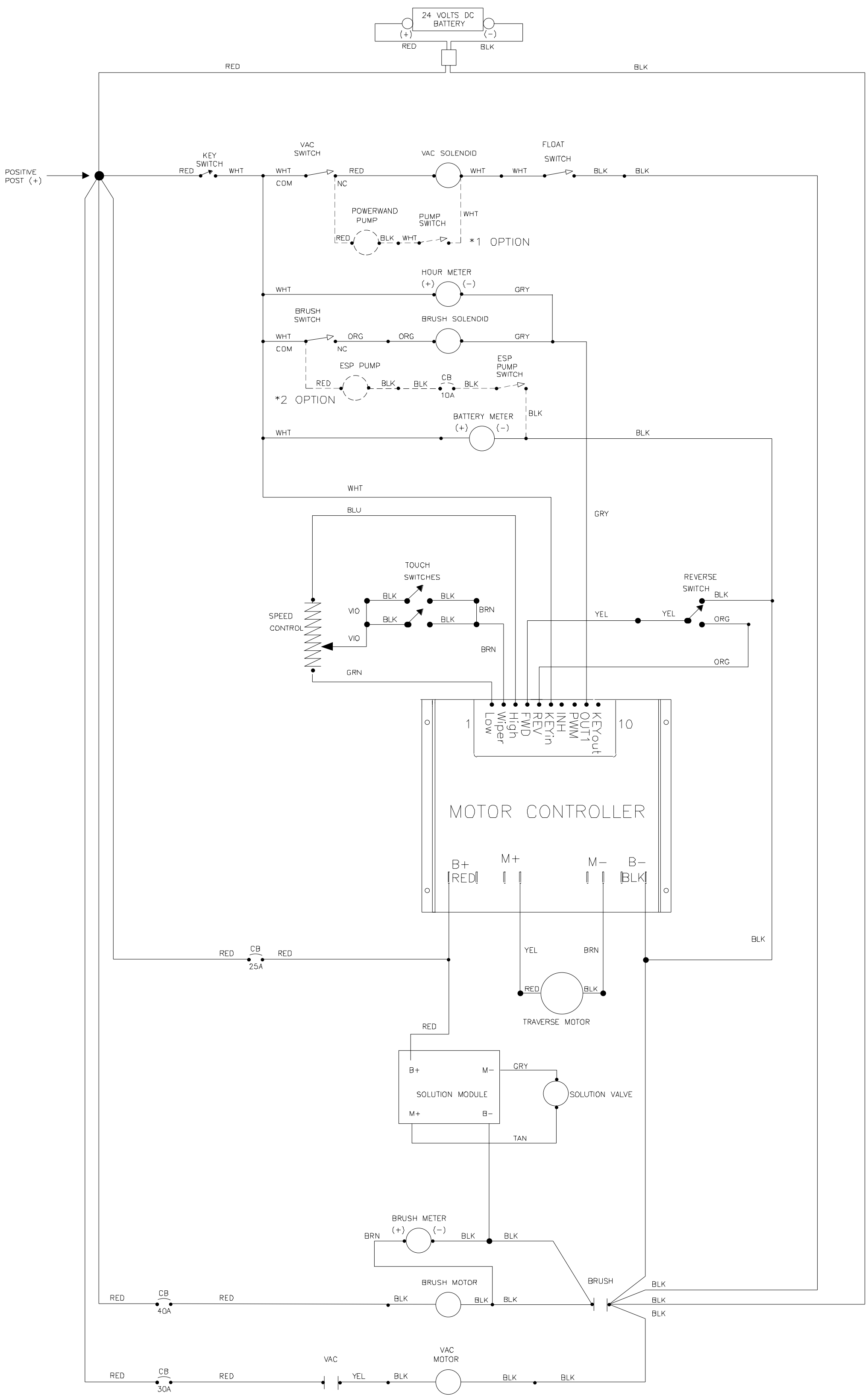
1. With motor still fastened to transaxle gearbox, remove old endbell by backing off the two 10-32 nuts and removing the lock washers. Slide endbell off motor.

2. Assemble new commutator endbell and brush assembly by sliding it over shaft and motor studs until brush retaining clip bottoms out. Holding endbell still, slide retaining clip out from between the brushes and commutator. Push the endbell on the rest of the way until endbell casting bottoms on the motor frame. Replace the lock washers and nuts and torque the nuts 40-45 in.-lbs.

CLARKE TECHNOLOGY
Encore L20
Connection Diagram (00880A-W) 7/97



CLARKE TECHNOLOGY
Encore L20
Electrical Schematic (00880A-E) 7/97



*1 OPTION = POWERWAND
*2 OPTION = ESP RECYCLE